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110 YEARS OF FEDERAL AID TO AGRICULTURE

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by T. Swann Harding

Va

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1 -- In the Beginning

In the beginning there was no Department of Agriculture! But, as these lines are written, the Federal Government has been providing some aid to agriculture for 109 years, and the Department of Agriculture is 86 years of age.

In 1862, during the frenzied days of Lincoln's first administration, the Department of Agriculture was organized as a Bureau in two basement rooms of the building now occupied by the U. S. Civil Service Commission in Washington, D. C. The incumbent Commissioner of Agriculture also had a couple of other rooms in an office building nearby. His staff consisted of himself and three or four clerks and laborers. His expenditure for the first year of the Department's existence was $60,000.

Today the Department is housed in a huge structure of its own. Its South Building -- not to consider the smaller white Administration Building --has 7 wings and is 6 stories high; it covers two entire city blocks and the street that was formerly in between them. It has 7 miles of corridors, 4,292 rooms, 4,746 windows, 40 elevators and space for 10,000 workers. It contains 1,188,509 square feet of floor space and is the third largest office building in the world, being exceeded in size only by the Pentagon and the Empire State buildings. Started June 1, 1930, the building was completed January 15, 1937, at a cost of $10,000,000.

However, there is more space still in the Administration Building, while the Agricultural Research Center at nearby Beltsville, Md., has some 2,000 workers, housed in 36 laboratory buildings on 12,000 acres of land, a development which cost $13,000,000. Here also are 31 greenhouses -- 4½ acres under glass -- 100 barns and storage buildings, 500 small-animal and poultry houses, 3,000 experimental farm animals, more than 10,000 mature laying and breeding fowls, and some 5,500 laboratory rats, mice, guinea pigs, and rabbits, plus numerous colonies of bees.

Whereas the first Commissioner of Agriculture had but a handful of nonspecialized workers to aid him, the scientific specialists at the Agricultural Research Center include: Agronomists, animal husbandsmen, apiculturists, architects, bacteriologists, biochemists, biologists, botanists, chemists, engineers, entomologists, geneticists, grain technologists, helminthologists, home economists, horticulturists, mycologists, nematologists, olericulturists, nutritionists, parasitologists, pathologists, physicists, physiologists, phytopathologists, pomologists, silviculturists, soil conservationists, statisticians, veterinarians, and zoologists.

Aside from that the Department has numerous offices and laboratories scattered all over the United States. The Department's Miscellaneous Publication No. 640, Directory of Organization and Field Activities of the Department of Agriculture: 1947, supplies full details. Finally, the Department also maintains some installations in foreign countries. Indeed only about 10,000 of the Department's 60,000 full-time employees are in Washington. At one time it had more than 100,000 employees, but it shrank in size both during the latter part of the New Deal and during World War II.

The Department's annual appropriations now shoot above the billion mark while in the most recent year $300,000,000 was expended in subsidies to enable farmers to adopt improved soil conservation practices. Vast sums merely flow through the Department and are not directly expended by it on itself. In short, it is costing you between $8 and $10 a year, and the same for every other individual citizen of the Nation.

The Department's activities and operations are of intimate concern to you, whether you live in city, town, village, or country. How did it get this way? How did it all happen? That is what we want to explain in the following pages.

First of all, why was there no Department of Agriculture for so long a time after the settlers began to arrive? Soon after landing in 1607, the colonists at Jamestown cleared land for wheat and then reserved space for a garden in which they planted the seed of fruits and vegetables -- melons, potatoes, pineapples, oranges were all hopefully tried. They brought along their own seed and for a long time ambitious colonists when in Europe sent back to this country plants and seeds that they thought would be useful to its budding agriculture.

Thomas Jefferson while Minister to France, 1784-89, thus sent back the seed of grasses, rice and pepper, and cuttings of olive trees, as well as of other trees. These he not only directed to various correspondents but also to the Society for the Improvement of Agriculture at Charleston, S. C. Benjamin Franklin while in England, as agent of Pennsylvania before the Revolution, also sent home plant specimens. As early as 1817, a grant was made to a group of French colonists on condition that they would introduce and establish the olive and the grape in Alabama.

These things were done on private initiative. In recent years, such is the complexity of agriculture, the production of many crops has been carefully planned and regulated, by as democratic means as possible, in order to make it attain predetermined goals so estimated as to supply needs until the next harvest. During wartime, at least, food distribution and allocation, as well as the stimulation of farm and home gardening became functions of the Department of Agriculture.

Originally self-reliant and self-subsistent in the very nature of things -- having unbounded acres of virgin soil to exploit, American farmers gradually became dependent upon commerce, trade, transportation, food processing, and other factors beyond their immediate control. After trying initially to solve their new problems by banding together voluntarily, they later appealed for State and then for Federal assistance.

Does this indicate that, as they have increased their productivity they have declined in wisdom and sound judgment? Did the Federal Government finally sweep over them of its own volition to render them dependent and to stifle their resourcefulness and initiative? What happened?

Over the years governmental aid to agriculture progressed from fostering the increase to severe regulation of production. But farming underwent drastic changes at the same time. It veered from subsistence to commercial agriculture; from the exploitation to the conservation of natural resources like soil, forests, and water; from traditional guesswork to the orderly application of verifiable scientific principles; from a sturdy and sometimes foolhardy self-reliance to considerable dependence on Government guidance; and from uncoordinated individual activity to well-coordinated group action, the Department of Agriculture acting as the planning agency and general staff, but the democratic process being used throughout so that planning was not forced down from the top.

But there were many earlier portents and precedents, now largely forgotten. From the very beginning laws regulating production and marketing have been familiar to American agriculture. Some were successful, some visionary. Again and again tobacco production was legally restricted to prevent market glutting and ensure food-crop production. There were price-fixing agreements for, and official grading of this crop, while destruction of surpluses was common even in Colonial days.

Rice growing was encouraged, the exchange value of the commodity was regulated, and its quality standardized. Premiums and bounties were used to stimulate the growing of indigo, hemp, and flax, and the production of naval stores. Silk production was encouraged in every way and the growing of cotton, sugar, spices, wine, and subtropical fruits was stimulated or regulated legislatively.

Agriculture was little commercialized indeed in 1787, the year of the Constitutional Convention. For it then took the surplus food produced by 19 farmers to supply a single urban or rural nonfarmer. During the 1930's however, 19 farmers could produce sufficient to supply themselves and 56 nonfarmers besides. During World War II a fundamental revolution in agricultural technology was achieved in practice which enabled the American agricultural industry to produce sufficient for from fifty to a hundred million people more than the population of continental United States.

In 1790 the Nation had a population of fewer than 4 millions. Of these only 400,000 could be called urban or nonfarm people by any stretch of the imagination. The settled area extended for but an average of 255 miles westward from the Atlantic Coast. But the cradle and the scythe were brought from Europe, the cotton gin was invented, the first Merino sheep were imported, andthe commercial plantation economy of the South slowly got underway.

Tobacco was the first principal cash crop, followed by cotton around 1806. Transportation was via water or wilderness trails, though there was considerable building of turnpikes and toll roads. Fulton's steamboat appeared in 1807. Throughout this period much aristocratic and fashionable interest was maintained in the promotion of scientific agriculture, but tobacco was the principal export crop. However, as early as 1785, local associations of gentlemen farmers began to be formed. The Massachusetts Society for Promoting Agriculture was formed in 1792. The Kennebec Society formed in 1787, was about the first organization of dirt farmers, however.

Agricultural societies early fostered some degree of experimentation, but the farmer who deviated from traditional practices, ignored the phases of the moon when planting, or tried new methods, was looked askance. On the other hand, as early as 1794, agricultural societies in Pennsylvania were suggesting the establishment of "pattern farms" to promote agricultural education, obvious progenitors of modern home demonstration farms.

But American farm life was originally self-sufficient and self-contained, an economic microcosm. Each farm produced its own food, clothing, linens, furniture, soap, candles and other necessities; only a few things like tea, pepper, salt, spices, and nails had to be purchased or acquired by barter. But time gradually transferred household industries from farms and homes to factories. Ultimately the farm began to supply about half the raw materials required by industry. A totally new situation thus developed.

It is easy to see why this kind of early farming called for little or no Government assistance. Every farmer was his own Secretary of Agriculture. There was little hired labor or expensive machinery. Only a few farmers around the fringes of settlements produced much for sale; the rest farmed for subsistence and purely as a way of life. The transportation problem was simple for, if the farmer sold to town people, they were always nearby.

Above all there was always much more rich land forthe farmer to cultivate. Once he exhausted the land he was on, which he contrived to do very quickly, he thought nothing of selling or abandoning it and passing on, a migratory tendency the automobile has perpetuated in our own age. Since land cost little or nothing and farmers built their own homes, credit problems did not arise; since the soil was rich, commercial fertilizers were not required. Most farmers not only built their own houses and outbuildings, but hewed much of their equipment and furniture out of the woods.

The dawn of commercial farming changed this picture entirely. Problems concerned with soil exhaustion or erosion, credit facilities, long-distance transport, food processing, pressure on the land, reaching far distant markets, mechanization, the use of commercial fertilizers, tenure conditions, regional specialization, and domestic and international competition arose. The farmer was gradually called upon to cope with conditions he simply could not control, acting as an isolated individual. Hence farmers first organized voluntarily, then called on Government for aid.

Toward the end of the eighteenth century the famous Frenchman, Jean Anthelme Brillat-Savarin, came to the United States. Actually a distinguished authority on political economy, duelling, and French law, his influential books on these subjects are forgotten and he is remembered ironically enough for his Physiologie du Gout (Physiology of Taste), composed of little essays on food which his doctor persuaded him to publish when he neared seventy. Incidentally he always spelled "gourmand" when he obviously meant "gourmet."

Earlier in life Brillat-Savarin sat too far to the right in the French Parliament and served under the Marquis de La Fayette, but got his name on the list of those proscribed by the Committee of Safety. He then fled to the United States where he played second fiddle at a Broadway theatre, taking his meals at a pleasant tavern at 120 Broadway, now the home of the Equitable Trust Co., with a Savarin restaurant in the basement! He travelled a great deal meeting, among others, a well-to-do Quaker farmer named King who knelt on the forest floor and asked God to rest the soul of the dear departed whenever he shot a wild turkey.

Brillat-Savarin also, in 1794, visited the home of farmer Bulow, just outside Hartford, Conn., where he feasted on a superb brisket of corned beef, a stewed goose, a magnificent leg of mutton, and vegetables of every kind, washed down with huge mugs of cider. Later Brillat-Savarin gave farmers King and Bulow a return dinner of squirrels stewed in Madeira and partridge wings baked in waxed paper and, when the Terror ended, returned to France.

But though he took high station, becoming a member of the Cour de Cassation (Supreme Court) he continued to write little essays on gastronomic subjects and he never forgot those fine little turkeys he had eaten in America. Neither did he forget farmer Bulow. For, after that dinner mentioned above, this self-subsistent agriculturist addressed his French guest thus:

"You behold in me, my dear sir, a happy man, if there is one on earth; everything you see around you, and what you have seen at my house, is produced on my farm. These stockings have been knitted by my daughters; my shoes and my clothes come from my herds; they, with my garden and farmyard, supply me with plain and substantial food. The greatest praise of our government is that in Connecticut there are thousands of farmers quite as content as myself, and whose doors, like mine, are never locked.

"Taxes here scarcely amount to anything, and, as long as they are paid, we can sleep calmly. Congress favours in every possible way our rising industry; agents from every quarter are always ready to rid us of all that we have to sell; and I have ready-money in hand for a long time, having just sold at twenty-four dollars the barrel of flour for which I usually get eight.

"All this is due to the liberty we have won by arms and established in good laws. I am master of my own house, and you will not be astonished to know that the sound of the drum is never heard there and that, unless on the 4th of July, the glorious anniversary of our independence, we never see either soldiers, or uniforms, or bayonets."

A man like that naturally felt no urgent need to call on Government except, as occasion warranted, to shoot a few frontier Indians. However, not all our farmers were like Bulow even then. For another equally distinguished French visitor saw some of these. He was none other than the famous statesman, de Tallyrand-Perigord, who spent the years 1794-96 in the United States looking into speculative possibilities.

During this period he travelled extensively in southern Maine and northern New York, writing his experiences up at considerable length. At this time 90 percent of the Nation's inhabitants were engaged in agriculture, lumbering, and fishery. Tallyrand reported that it was not unusual to find ten or twelve healthy children under one roof in Maine, few ever having been lost by early death.

He declared that settlers tended to be active and industrious for two or three years after they arrived. They would clear seven or eight acres in which to plant potatoes and corn and to pasture their livestock, then slackness usually overcame them. If near the coast, they were content to rely on the sea to supply anything further they desired. They were stark individualists and "the idea of the need which men have for each other" did not exist in them.

Tallyrand found the early settlers of Maine to be "indolent and grasping, poor but without needs." They too much resembled the Indians they had replaced. All transactions were by barter -- 6,000 feet of board for a cow, or a gallon of rum for six days labor; pins formed the small coin. Society was formless but fraud had appeared. Tallyrand continued:

"An inhabitant becomes the merchant of a section; rum, molasses, some coarse cloth, some household utensils and work tools are the attractions which he offers to a whole bay, which comes to him from ten miles around. Then there is begun between the sellers and buyers a struggle of finesse. In the intention of the merchant, selling is only a means of getting the customer in debt; he offers credit rather than granting it and does not dispute the conditions so long as they do not dispute the price.

"One hundred percent profit and often more does not frighten the purchaser, who manages secretly the resource of not paying. Thousands of feet of boards, strings of wampum are stipulated as due on the book of the merchant, but when due nothing appears; a vessel has entered the bay, has offered rum for prepared woods, and has received preference over the creditor. In this web of reciprocal frauds, habits of immorality are formed. Gains from fraud soon are dissipated and the poverty which succeeds is not dissipated by indolence, it only sharpens the spirit towards new deceptions."

However, a few days labor would protect a settler from hunger if he could live on corn and potatoes! Some who lacked provisions through indolence managed to subsist all winter on clams gathered at the seashore. Yet almost all of them could do their own work passably well -- weave cloth, make shoes, do acceptable carpentry. The only manufactures were sawmills. But the inhabitants were always ready to sell out to anyone who came along willing to buy. To quote Tallyrand again:

"You no longer see a farm from which you cannot be sure of dislodging the whole family which inhabits it if you offer the attraction of a little cash. You find neither attachment for the place which they have chosen, which they have created, where they have lived, nor repugnance to throwing themselves into the adventure of another altogether new settlement. If you praise the location of a farm and the good appearance of the land, they will reply that it is for sale, that they would be charmed to have a purchaser. Ask why they wish to sell. 'I do not know', they will reply, 'except to go elsewhere'. 'Where do you wish to go then'? 'I do not know', say some: 'To the interior of the State of New York,' say others.

"But the change of climate is not their motive for there is not yet a regular and perceptible course of migration from this northern part toward the other points of the United States. As a matter of fact they wish to sell to get money, and they know of no other way of getting it. They wish to sell because they have debts and they are forced to sell to free themselves. They wish to sell sometimes also in order not to pay debts and to escape at the same time from the mortgage and the creditor. They wish to sell, in a word, because they have done too little work around them to have placed their affections there. This indifference for one's domicile is certainly an antisocial disposition."

Tallyrand also observed that it was in the main those who engaged in lumbering and fishery who were so restless and anxious to move along. Those who lived by cultivating their land tended to be more stationary. They also were best educated, informed, and enlightened, and most attached to their Government. At this time the Federal Government sought to encourage farming by remission of taxes on farm land, while State land taxes also were low, as farmer Bulow said.

Tallyrand felt that the Government should interest itself in making good settled farmers out of a lot of those migratory lumbermen and fishermen. He thought division of labor should be fostered. The land should be tilled by those who relished this and fishing undertaken by those who were fishermen by nature -- not just through laziness. That would require increased capital, but it was evident to Tallyrand that American agriculture could even then readily and usefully absorb much more capital than was invested in it. He wrote:

"We know that it is difficult to make agriculture enjoy the same advantages which commerce receives immediately from the institution of banks," but the Government should undertake to give farming this aid. So far it had shown too much activity in aid of business and too little in aid of agriculture. This is a most suggestive observation to have been made at that early date. Said Tallyrand: "One who buys lands to sell them is much more exalted in his hopes than the real consumer who buys to cultivate."

In New York State there were then two classes of cultivators who differed sharply because of diversity in origin. The first were Germans and Hollanders who continued to clear land so long as they could cultivate all the soil not necessarily in woods, and who increased their wealth annually by economy and industry. They retained the frugality and industry characteristic of their homelands; they liked money and took pains to acquire it.

The American-born, however, lacked constancy and persistency in their labors. They started off with prodigious effort, managed to withstand the intemperate climate well, overcame the difficulties of clearing the soil, and made astonishing progress the first few years. Then, when their houses were built and their subsistence was assured, they lapsed into indolence. Said Tallyrand in conclusion:

"It seems that the stimulus of interest leaves him untouched if he is not forced by primary needs. His limited ideas narrow the circle of his desires, by calculation or by sentiment he prefers repose to the pleasures that would require effort. Even the example of more laborious and consequently richer neighbors does not make him feel the powerful appeal of emulation. If he equals or excels his German neighbors it is in the filthiness of his house and person, which is beyond all description."

This glimpse of some of our more unwholesome rural ancestors may not be appetizing, but we may as well face the facts as seen by an eminent European. Yet we should remember also that farmer Bulow, like farmers George Washington and Thomas Jefferson, was not cast in this mold. But conditions changed rapidly.

In 1820 about 85 percent of all persons in the Nation over 10 years of age and gainfully employed were in agriculture. By 1930 that figure was only 21 percent. In 1830 it took 57.7 hours of labor to produce 20 bushels of wheat from an acre of land; it took only 8.8 hours by the machine methods in vogue in 1896, and but 3.3 hours in 1930. In 1850 the average farmer had available approximately 1½ horsepower in the form of machinery; in 1930 that figure was 6.7 horsepower.

Mechanization temporarily lowers the cost of producing agricultural commodities; thus it increases the farmer's profit. Ultimately, however, the farmer may find that the maintenance of fixed charges contingent on owning so much machinery and the increased land values to which their possession and employment gives rise, may get beyond him. Next the spector of overproduction for the effective market -- for the people who can afford to buy the farm output -- leads him to cut prices. Meanwhile he has lost his competence at many little jobs the subsistence farmer performed expertly.

Technology really began to enter agriculture earlier than most of us think, say around 1830. The Baltimore and Ohio Railroad ushered in the railroad age in 1828. The building of canals and railroads, the discovery of gold in California, and the repeal of the British Corn Laws all came along within a decade or so. In earlier days farmers had wooden plows, harrows, hoes, rakes, shovels, and forks. But Charles Newbold of New Jersey invented a cast-iron plow in 1797, and then spent a fortune trying unsuccessfully to get farmers to adopt it.

In 1814-19 Jethro Wood developed a cast-iron plow the different parts of which were interlocked and could be replaced individually if broken. Thus the era of interchangeable parts dawned even before Eli Whitney, the inventor of the cotton gin, applied it to firearms during the Mexican War. Metal and steel plows soon followed; they came into general use by 1825 largely through the work of two blacksmiths working independently -- John Lane and John Deere. James Oliver's chilled-steel article appeared in 1869. William Manning of New Jersey patented his mowing machine in 1831, and Obed Hussey and Cyrus McCormick perfected the reaper between 1833 and 1844. The seed-drill thresher, horse hay rake, tedder, corn planter, two-horse cultivator and other equipment soon followed, heralding the era of scientific farming.

Likewise we tend to think that basic discoveries and inventions in the field of food processing and preservation were made much later than they actually were. It was Thomas Moore, a Maryland farmer, who invented a refrigerator to help him market dairy produce; he patented it in 1803. Nathaniel Wyeth of Massachusetts invented an ice cutter in 1827 which made ice readily available. The *New York Mirror*, in 1838, spoke of refrigeration as being in common use. John Dutton of Pennsylvania patented a compression process for making ice in 1846 and, by 1865, railroads were using refrigerator cars.

Nicholas Appert in France found out how to preserve foods by hermetical sealing early in the nineteenth century. Two Englishmen, William Underwood and Thomas Kensett, introduced the method here in 1819. In 1825, Kensett patented his method of using tin cans as the containers and, by 1855, large-scale canning operations were being carried on in the United States. A year later Gail Borden patented his process for condensing milk. Advancing technology forced great changes in agriculture.

By 1836 the United States had a population of around 17 millions, only 9 millions of whom were on farms. Plows, reapers, steel saw blades, threshing machines, grain drills, grain elevators were all available. The use of factory-made farm equipment increased rapidly. Manufacturing was moving at top speed from the home to the factory. Cotton was the South's cash crop and western farm areas began to compete with New England. Cotton had also replaced tobacco as our principal export crop.

Canals and railways were being built. Antagonism between commercial and agricultural interests increased rapidly; southern planters opposed protective tariffs. Farmers began to organize along occupational lines; new farm papers sprang up constantly. Popular education in the field of agriculture became a crucial rural issue. The period of agricultural museums, fairs, and lyceums dawned and farmers undertook their own self-education. In 1837, Michigan established a State university to provide both general and, in particular, agricultural education.

Then came the settlement of the Great Plains, facilitated by Colt's invention of the six-shooter, the invention of barbed wire by Glidden and Haish, and the increased manufacture and sale of windmills. The region had been largely neglected by earlier settlers, accustomed as they were to a subhumid climate, trees, and rivers. They had therefore pressed on to the Pacific Coast, leaving what they regarded as the "Great American Desert" far behind on the road to plenty.

When the Indians became horsemen they proved formidable obstacles to settlement by whites. An Indian, armed with twenty arrows and a spear, had considerable advantage over a white man armed with a rifle which he had to dismount to fire, or with cumbersome horse pistols each of which he could discharge but once, whereupon he faced the onerous job of reloading. But, in 1835, Colt took out his first revolver patent in England, securing one here the next year.

In the same year Texas became an independent republic. In 1838 a company was organized in Paterson, N.J., to manufacture Colt revolvers, and, by 1840, the Texans were presenting the business ends of these weapons to the Indians. Once more the white man had an overwhelming advantage over the Indian brave. It was only a few years later that Eli Whitney, inventor of the cotton gin, devised his method for making a revolver with interchangeable parts, and the use of such weapons became common during and after the Mexican War.

Since the first Federal aid was granted agriculture in 1839, we should now survey the condition of this industry about that time. Then one-third of the national income was derived from agriculture as against one-eighth in recent years. Whereas four-fifths of our gainfully employed

workers were then in agriculture, just about that proportion of them are now in nonagricultural pursuits. In 1839 the District of Columbia produced more rye than "Wiskonsin," more hay than Mississippi, more tobacco than South Carolina and "Wiskonsin" combined, and the value of its orchard and market-garden produce was three times that for Florida.

But, in 1839, there was practically no agriculture west of the Mississippi, except for Louisiana and Missouri. Iowa, Wisconsin, and Florida were still Territories. Texas was an independent republic. Captain John Sutter, under a Mexican land grant, was just beginning to set up his little empire and to develop agriculture along the Sacremento River.

Yet farmers were pouring into the Middle West from the East as well as from Europe. They settled in wooded regions because the forests provided fuel, game, building materials, and protection from tornadoes, and along rivers because these afforded transportation. The farming was largely of pioneer type, for land was cheap and plentiful, labor and capital were scarce. Livestock was small, scrubby, and low in productivity. Soon, however, considerable quantities of wheat and flour, and some corn, lard, butter, cheese, and wool were being shipped East along the Erie Canal. Thus cheap western land began to compete with eastern agricultural industry.

New Orleans had already become a great agricultural transshipping market. New England was desperately trying to adjust itself to a new form of specialized, yet diversified agriculture established there to supply nearby urban markets. For it could no longer hold to the one-crop system -- hogs, hops, wool, broomcorn, or beef -- but began to market milk, fruit, and vegetables. This transition from a self-sufficient to a commercial agriculture

was slow and painful. Some New England States even tried to repeal economic laws and arrest progress by paying bounties for the production of the traditional crops when raised in competition with cheap products from the West.

A century or so ago the South produced almost all the cotton, rice, sugar, and sweetpotatoes, and most of the tobacco, hemp, and corn. Cotton, tobacco, and rice were usually grown by the one-crop system, cotton having undergone tremendous expansion during the speculative 1830's, before the deep depression current in 1839 began.

Farmers in Maryland, Virginia, and North Carolina already faced soil exhaustion and soil erosion, low prices for their products, high prices for slaves and equipment, and sharp deflation in land values. Mass migration to the West began, suggesting a similar migration of impoverished agricultural workers a hundred years later, except that the farmers of a century ago had rich, fertile lands to settle upon at their journey's end.

The making of textiles was now largely transferred from home to factory, though some repined that farm wives would be left with nothing to do but luxuriate in idleness. The decline of household industry began to have its effects on the ideals of self-sufficiency and on the farm family as a social-economic unit.

The depression of 1837-42 was the most extended period of severe misfortune the Nation underwent before the Civil War. In 1839 alone, 759 banks closed their doors, interest rates sometimes rose to 30 percent, and speculative manias abounded. This extended to agriculture. Mulberry trees, silk production, broomcorn, Chinese tree corn, Rohan potatoes, Merino sheep, Shorthorn cattle, Berkshire hogs, even camels, ostriches, and more exotic crops it was hoped, would magically solve the farm problem.

The year 1839 marked the end of the Canal Era and the beginning of the true railroad-construction period. The railroads rapidly made farming more remunerative. Already a network of post roads connected the principal cities. But further improved methods of transportation, coupled with the new techniques for food production and preservation, widely expanded the market for agricultural commodities. Within a decade after 1850 railroad trackage increased from 9,000 to 30,000 miles.

John Deere of Illinois, who produced his first steel plow from a saw blade in 1837, touched off a technological revolution in agriculture. Machinery rapidly began to replace manpower. The stationary fanning mill, introduced during the 1830's, reduced the time required for thrashing, winnowing, gathering, and sacking an acre of wheat from 26 to a mere 4 hours. Earlier 50 to 60-man-hours of labor had been required to produce 20 bushels of wheat with a walking plow, a bundle of brush for a harrow, hand broadcasting of seed, harvesting by sickle, and threshing by flail. Thus the machines enhanced work capacity and productivity to an extraordinary degree.

In 1840, there appeared a remarkable and tremendously influential book by Justus von Liebig, Chemistry in its Application to Agriculture and Physiology, which convinced more progressive farmers that chemistry could do great things for agriculture. It reinforced the impression made earlier by Sir Humphry Davy's Elements of Agricultural Chemistry, a collection of his lectures given before the British Board of Agriculture in 1803, which appeared in book form ten years later.

Therefore the factors now heavily influencing the agriculture of 1839 were: An acute and general depression; mass migration of farmers to the West; and signal advances in agricultural science and technology and in techniques of food preservation, processing, and transportation.

Before we describe the early beginnings of Federal aid to agriculture, let us glance hastily at the pattern of agricultural prosperity over the years. There was little stability during the nineteenth century. The Napoleanic wars helped make American farming prosperous at its beginning but, in 1807, embargoes caused a price drop, and farming encountered difficulties it did not surmount until the inflationary period of the War of 1812. Then farm prices stabilized at higher levels, but depression set in after several years of peace, culminating in the panic of 1818-20, and a decade of low prices.

Next came rising farm prosperity, accompanied by wildcat banking and unrestrained speculation in western land, leading to the panic of 1837, from which agriculture did not emerge until 1843. Poor harvests in Europe, repeal of the British Corn Laws, and the discovery of gold in California stimulated more rapid improvement after 1844, and relative prosperity continued until the troubled times before the Civil War. During the war prices doubled and the farms prospered, but peace deflated farm prices, and the panic of 1873 started a long depression which left farm people in desperate straits.

This was interrupted by the fairly prosperous 1880's, but the panic of 1893, possibly the worst in the century, left farm people in dire distress. After 1896, agriculture began a slow process of recovery into a long period of prosperity. World War I superstimulated this boom which flattened out in the disastrous bust of the 1920's. Agricultural conditions remained bad from 1920 until 1933, then with Government aid, began to improve gradually until World War II induced new inflation and record-breaking farm income.

We now return to very early days when that portion of the city of Washington from 7th and F Streets N.W., northward as far as the Public Library at 7th and K, comprised the farm of John Orr. But, in 1795, a movement began to erect a good hotel in the city, the site, plans, and building to form prizes in a lottery designed to promote the sale of building lots in the struggling town. Perhaps George Washington himself was not uninterested, because he speculated heavily in Washington real estate, and it has been said that he held out for this humid muckhole as the site of the Capital City, hoping to enhance the value of his lots.

The space bounded by 7th, 8th, E. and F Streets N.W. today measures 204 by 300 feet. It was decided upon as the site of the projected Blodgett's Hotel which, when completed, did not actually fill even the F Street side of the square. In the hotel was a theatre in which Washington's first theatrical performance was staged. Meanwhile the entire Federal Government -- War, State, Navy, and Post Office -- was housed in one 25-room building in which War and Navy occupied 8 rooms each. The crowding became intolerable by 1810.

The winner of the Blodgett Hotel lottery never did get the building and its site, as it was not completed as a hotel. He got an out-of-court settlement in cash. In 1810 the structure was purchased for office use by the Federal Government and the Patent Office, the city Post Office, and the Post Office Department, moved in. As late as 1822, Dr. William Thornton -- once described as "the first Commissioner of Patents resident in Washington -- a city in the woods --" received only $1,500 as Commissioner of Patents; his clerk got $1,000, his messenger $500, and that constituted his entire staff. However, the President and members of his Cabinet did not then examine and certify all patents as they had done earlier.

In 1805, this same Dr. Thornton has been instrumental in holding an agricultural fair in Washington, on "the Mall at the south end of the Tiber, extending from the bridge at Center Market to the Potomac." That is near the modern Department of Agriculture grounds, though the Tiber has disappeared. The city has grown over it, but its waters still flow in the deep underground gloom, and served to operate the air-cooling equipment of some of today's Government buildings.

Not only had the Patent Commissioner an interest in agriculture but, in 1810, the Columbian Agricultural Society for the Promotion of Rural and Domestic Economy held an exposition over near Georgetown. Prices of from $60 to $100 were offered for two-toothed ram lambs and other entries. President Madison himself attended, wearing -- according to a contemporary press account -- his "inauguration suit, the coat made from merino wool of Col. Humphreys' flock, and the waistcoat and small-clothes made from the wool of the Livingston flock at Clermont."

When the British put Washington to the torch in 1814, the retaliation for similar destruction of Government buildings we had wrought earlier in Canada, Blodgett's Hotel was the only Government building not burned. This was because Dr. Thornton engaged in argument with the British Col. Jones, who had charge of the roving conflagration squad. The argument is said to have lasted four hours with Thornton tastefully attired in his nightshirt.

The record is mute as to whether Col. Jones was convinced by Dr. Thornton's argument or merely got tired of listening to him. At any rate the building was spared, ostensibly because of the cultural, educational, and scientific value of the Patent Office's material on the top floor, and

Congress met there later while the Capitol was being refinished. Actually the building was merely saved until it became still more valuable when we managed to burn it ourselves.

For it caught fire on December 15, 1836, when Henry L. Ellsworth was Commissioner of Patents. The ineffectual efforts of the staff to save it are said to have delayed the arrival of professional firemen so long that the fire was beyond control on their arrival. In any case the records and models, including those of Robert Fulton's Clermont, went up in smoke and flame. Undoubtedly many of these had agricultural interest, for the granting of patents in the agricultural field has become increasingly common.

Conditions in the city of Washington about this time may be surmised from this item in a local newspaper dated April 21, 1836: "The ill-fated man who was thrown down by a hog opposite the General Post Office (Blodgett's Hotel) on Thursday, as mentioned in our last, died on Saturday from the severe injury he sustained, his skull being fractured by that infamous incident." Washington then had a population of about 40,000.

In time Commissioner Ellsworth, who will be considered later in more detail, had begun to collect imported plants, seeds, and agricultural inventions, storing them in the Patent Office and later distributing them to farmers for experimental purposes. He at first did this on his own initiative and without Congressional authorization. Since this was likewise done at his own expense he was a unique bureaucrat indeed.

Fortunately Congress had already authorized the construction of a new Patent Office before Blodgett's Hotel burned. That structure still stands and is now occupied by the U. S. Civil Service Commission. The F Street side, facing Blodgett's site across the street, was completed in 1840, but Commissioner Ellsworth could not move in because the building had to serve temporarily to house the new Smithsonian Institution. When he did get into it, in 1844, he looked around and said it would serve the purpose for many years. Hence it is not surprising that it was overcrowded four years later.

An east wing was added by 1852, a west wing by 1856, and the north or G Street side of the building was completed in 1867; before that Lincoln's inaugural ball had been held there, and the odd, old ballroom can still be seen today, though it is now all partitioned up and cluttered with offices. The building's south portico, clipped off some years ago to ease traffic congestion, was copied from the Parthenon at Athens. The entire building cost three million dollars.

In 1849, the Department of the Interior had been created and the Patent Office left the State Department to form part of it. Thomas Ewing, its first Secretary, established himself in a single room of this building. Soon thereafter Interior crowded everything else out of the place. Part of the Patent Office now spilled over into the curious old structure today occupied by the U. S. Tariff Commission, which occupies the actual site of Blodgett's Hotel.

This structure was started in 1839, but the building as it is today was not completed until 1866. In one of the former buildings on the 7th Street side, which had to be demolished to make room for this structure, Samuel F. B. Morse opened and operated the first telegraph office in the United States. The oldest telegraph office in Washington today has its quarters on the F Street side in memoriam.

From the old Tariff Building's erection until 1897, the Post Office Department and the City Post Office also occupied space therein. To this day it houses a branch post office. In his "Education" Henry Adams remarked: "The white marble columns and fronts of the Post Office and the Patent Office face each other (this was in 1850), like white Greek temples in the abandoned gravel pits of a deserted Syrian city." The buildings,-- Tariff and Civil Service -- still face one another, though they are no longer gleaming white, the gravel pits are gone, and the city is much too far from deserted for comfort.

Government agricultural work was first performed in the Patent Office while it was in the Department of State. The work continued and grew after it entered the Department of the Interior, by which time it was granted $3,500 a year by Congress for this activity in aid of farmers and farming. It was in two basement rooms of the old building occupied by the Civil Service Commission that the Department of Agriculture itself was organized in the early summer of 1862. The rooms were then occupied by the agricultural section of the Patent Office under the supervision of Isaac Newton.

But we are getting ahead of our story. More about that later.

II -- The First Thousand Dollars

The ideal eighteenth-century colony was one that produced commodities which did not directly compete with those of the mother country. The economic pursuits of mother country and colony would thus be complementary. Hence Great Britain, which by the outbreak of the Revolution had become primarily a manufacturing country, wanted the American Colonies to serve principally as producers of raw materials from farm commodities, and as a market for manufactured products.

Hence Parliament did much to stimulate agricultural production in America but little to stimulate industrial progress. In fact effort was expended to divert the colonists from manufacturing and to induce them to develop agriculturally. Thus, between 1633 and 1643, Parliament granted considerable sums to promote the growing of indigo and other crops in Georgia. But much of the same sort of thing had been attempted earlier.

Only three years after Columbus made his discovery, Spain proclaimed special privileges for those who settled and cultivated the soil of the New World. In 1565, she granted 3,600,000 acres to one man, to be located wherever he pleased in Florida, provided he would colonize it with permanent settlers who were husbandrymen.

In 1622, the London Company of Virginia was encouraged by James I to breed silkworms and establish silk works, while Virginia itself encouraged the growth of hops, in 1675, by legislative enactment. In 1717, France made a royal grant of 144 square miles on the Arkansas to the celebrated John Law, giving him complete monopoly, provided he settled 1,500 persons thereon. In 1732, a parcel of ground belonging to the Government

was allotted to a mulberry plantation in infant Georgia, and the colonists tried their hands at silkworms and silk production. The effort to produce silk in this country persisted obstinately for many years though without signal success.

Various French, Spanish, and Dutch noblemen sought at different times to promote agriculture while their countries held parts of the present United States. Nor is legislation to solve agricultural problems anything that could be called "newdealish" in this country. The Colonial government of New Jersey, in its efforts to promote agriculture, adopted protective measures for farmers and established marketing regulations. The mother country desired production of naval stores, fiber crops, and silk, and she freely offered bounties, subsidies, and premiums as incentives. Stimulation of production by educational means and the dissemination of information were also tried.

If the colony was to serve the mother country well, the colonists had to become acquainted with the best methods of sowing and curing hemp and of preparing trees to make tar for cordage. Benjamin's son, William Franklin, while Governor of New Jersey, sought to promote the growing of flax, hemp, and silk, and prevailed on the Assembly to grant bounties to growers. Legislation in colonial New Jersey also dealt with the killing of wolves, the trespassing of livestock, the regulation of line fences, and the conservation of natural wealth.

There were laws to restrict the burning of forests; the indiscriminate cutting of trees, boring trees for turpentine without the owner's consent, or the gathering of cranberries on common land except at certain times. There were measures which provided for regular markets and fairs. As early as 1675-81 the standardization and government inspection of agricultural exports was undertaken.

At this time trade was still largely by barter, the standard being a bushel of grain. Hence the size of containers, as well as of beef and pork barrels, became the subject of regulation. The inspection service was rather ineffective and grave abuses often went neglected and unpunished, but the attempt was made. Flour and grain for export were inspected and the legal loaf of bread was fixed by grade and weight to protect consumers.

Such developments naturally took place early in New Jersey where agriculture quickly tended to become commercialized because of the growth of large towns and cities in the vicinity. But all the Colonies were quick to pass laws which we have somehow come to regard as very modern in origin.

Massachusetts, in 1655, enacted a law requiring each spinner in a family to turn out a specified quantity of yarn. An early Virginia law forbade mechanics to plant tobacco or corn; another in 1656, required each landowner to plant 10 mulberry trees per 100 acres. A Maryland law of early vintage granted a bounty of one pound of tobacco for each pound of hemp produced by a farmer, and two for each pound of flax, a measure with a very "newdealish" sound." But hemp and flax bounties were very common throughout the Colonies.

In 1770, Pennsylvania donated a thousand pounds to the Philosophical Society for the encouragement of silk culture. As early as 1794 one Pennsylvania agricultural society suggested the establishment of "pattern farms" as a means of agricultural education, the demonstration-farm idea in embryo.

In these days 90 percent of the people were engaged in occupations that were essentially agricultural. Colonial industry, such as it was, was mainly extractive. The principal products were lumber, fish, livestock, cereals, tobacco, rice, indigo, and naval stores. So little attention was given specialized manufacture that a sawmill and a gristmill were often under one roof. There was little or no specialization.

In 1770, Benjamin Franklin was agent for Pennsylvania in Europe. It was then that he began to send back plants and seeds for distribution in the Colonies. Many of the other Founding Fathers, notably Washington and Jefferson, took a lively and intelligent interest in agriculture. The former was undoubtedly the most ardent and influential advocate of governmental assistance to agriculture during the decade following the adoption of the Constitution. He mentioned the subject in his First Message to Congress, though he apparently had no very clear idea about what form such assistance should take.

The creation of a Federal Department of Agriculture was proposed as early as 1776, when the Second Continental Congress adopted two resolutions to that effect. One of these resolutions contained a clause, later struck out, proposing that a standing committee of the Congress correspond with and assist the agricultural societies which were to be set up in each of the Colonies.

In 1784 the Society for the Promotion of Agriculture was incorporated in South Carolina. Six years later appeared the New York Society for the Promotion of Agriculture, Arts, and Manufactures and, on March 7, 1792, the Massachusetts Society for the Promotion of Agriculture was formed. The Philadelphia Society for the Promotion of Agriculture was formed in 1785; Washington was elected an honorary member on July 4 of that year.

Washington regularly corresponded with Sir John Sinclair, the distinguished Scottish writer, financier, agriculturist, and economist who, in 1793, had been instrumental in forming the British Board of Agriculture with himself as first president. This was a Government-sponsored but not Government-paid body. Washington soon became an honorary member of it. In a letter addressed to Sir John in 1794, he expressed the hope that some such board would soon be formed in the United States, but he feared it would be some time before this could occur.

Nevertheless Washington determined to bring the matter to public attention here and the following statement is to be found in his last Message to Congress, delivered December 7, 1796:

"It will not be doubted that, with reference either to individual, or National Welfare, Agriculture is of primary importance. In proportion as Nations advance in population, and other circumstances of maturity, this truth becomes more apparent; and renders the cultivation of the Soil more and more, an object of public patronage. Institutions for promoting it, grow up, supported by the public purse: and to what object can it be dedicated with greater propriety? Among the means which have been employed to this end, none has been attended with greater success than the establishment of Boards, composed of proper characters, charged with collecting and diffusing information, and enabled by premiums, and small pecuniary aids, to encourage and assist a spirit of discovery and improvement. This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common centre, the results everywhere of individual skill and observation; and spreading them thence over the whole nation. Experience accordingly has shown, that they are very cheap Instruments of immense National benefits."

The suggestions thus made by Washington were favorably received by his Secretary of State and by public men generally. The Senate officially responded; "The necessity of accelerating the establishment of certain useful manufactures by the intervention of legislative aid and protection and the encouragement due to agriculture by the creation of boards (composed of intelligent individuals) to patronize this primary pursuit of society are subjects which will readily engage our most serious attention."

Therefore a committee of the House of Representatives recommended, on January 11, 1797, that an agricultural board or society be formed, that high Government officials be members ex-officio, and that it meet annually. In the stress of legislative business the measure never came to a vote. But the Nation generally prospered in the long period of peace (bar the War of 1812) which followed. Population increased and moved steadily westward, and means of transportation and communication constantly improved.

William Eaton, Consul at Tunis during Washington's administration, sent several Barbary sheep to Secretary of State Timothy Pickering for introduction here. The Secretary presented a pair of these to the Philadelphia Agricultural Society, whence the breed spread. In 1810, William Jarvis, Consul at Lisbon, took advantage of the Napoleonic wars to secure thousands of Merino sheep for this country. As noted earlier, Jefferson, while Minister to France, 1784-89, sent back the seeds of grasses, rice, peppers, and cuttings of olives and other trees which he directed to various correspondents, as well as to the Society for the Improvement of Agriculture, Charleston, S. C.

This practice received official recognition during the administration of John Quincy Adams when all American consuls were directed to forward rare plants and seeds to Washington. Under Adams also a botanical garden was established, and the Senate created a committee on Agriculture, following the example set by the House five years earlier.

On March 3, 1817, Congress granted four townships of unoccupied land lying in what are now Greene and Marengo Counties, Alabama, to Charles Villar of France, so that French emigrants might settle there to raise grapes and olives. In 1819, the State of New York appropriated $20,000 for use over a period of two years in the promotion of agriculture and family manufactures. The money was to be distributed equally among the agricultural societies in the various counties of the State.

Three early New Jersey newspapers -- 1776-97 -- were the first American periodicals to publish many articles on agriculture. The Agricultural Museum, believed to be the first farm journal of the country, was published in Georgetown, D.C., from 1810 until 1812, as the organ of the aforementioned Columbian Society. Of much more significant influence, however, was the American Farmer established in Baltimore in 1819, by John Skinner. Thereafter farm journals multiplied rapidly, appearing in every State, and they unanimously urged farmers to adopt new and better methods of husbandry. By 1850, more than forty agricultural journals had been established.

Elkanah Watson (1758-1842), father of the agricultural fair, was a one-man Department of Agriculture in his day. He purchased an estate near Pittsfield, Mass., in 1807, and became a member of the New York Society for the Promotion of Agriculture, Arts, and Manufactures, and its successor society. Soon after his arrival, he displayed a pair of Merino sheep he

had procured from Chancellor Livingstone, merely because he was proud of them, and that proved to be the germ of the agricultural fair. He promoted the first real fair in October 1810, and was its president.

In addition, Watson performed agricultural experiments and published the results. His correspondence became too great for him to handle, so he printed and distributed the pamphlet devoted to his experience, his views, and his advice on agricultural societies and fairs. He was prominent in the effort to forward both State and Federal legislation relating to the formation of agricultural boards, and finally succeeded in getting such a board established in New York, on recommendation of Gov. DeWitt Clinton.

He continued the revisions and free distribution of his pamphlet until it attained 80 pages, and included arguments for better roads, canals, turnpikes, and, finally, railroads. He sought new and unusual seed through our consuls everywhere, planted them, and reported his results. He introduced a wheat supposed to resist the hessian fly, and constantly exuded a flow of information on every direction. For he considered it his public duty to publish any useful information that came his way, whether by experiment or experience.

Watson predicted in 1820, that the United States would have a population of 133 million by 1930, and that its population would equal that of China by 2000 A.D. He held that agriculture would remain the basis of our prosperity, and that we should lead the world in the applications of science to agriculture and industry. He hailed farming as the most scientific occupation of all and glorified its contribution to the Nation.

On March 26, 1819, the Secretary of the Treasury, William H. Crawford, issued a circular letter advocating plant introduction, but authorizing no expenditures for the same. On September 6, 1827, President John Quincy Adams directed that a circular letter be sent our Consuls explaining the importance of plant introduction and directing that rare seeds and plants be sent to this country. The letter provided instructions for packing and shipping.

The House of Representatives established its agricultural committee in 1820; the Senate followed in 1825. Then, in 1828, Congress authorized publication of a manual, based on an investigation it had directed Secretary of the Treasury Richard Rush to have made, containing the best available information on the growth and manufacture of silk. This was the first Federal Government publication in the field of agriculture and interestingly enough, it came from the Legislative -- not the Executive -- branch of the Federal Government. Moreover Count von Hazzi, a Munich nobleman, upon hearing of this document, wrote insisting that Congress also publish his Treatise on Rearing Silk-Worms and the House of Representatives obligingly complied, also in 1828.

Several other official reports on the silk industry appeared around this time, because for a long while, a fixed idea existed that silk culture and manufacture could be established in this country on a paying basis. In 1830, the House of Representatives authorized the Secretary of the Treasury to finance a project for the cultivation of sugarcane and the manufacture and refining of sugar. The actual investigations were conducted by Prof. Benjamin Silliman of Yale. The results appeared in print in 1833. This was the first research project in the field of agriculture ever authorized by the Federal Government.

In those days the Patent Office was about the nearest thing there was to a scientific agency in the Federal Government. It gradually became customary for this office to receive and distribute plants, seeds, and information about agricultural inventions and cultural practices. Thus it edged into agricultural work at popular demand, but without direct Congressional authorization. As it was in the Department of State, the Consuls rendered what assistance they could, while Navy warships often brought home seeds and cuttings for distribution in this country.

Among the Consuls was Dr. Henry Perrine, stationed at Campecho, Mexico. He sent back plants for a decade and constantly urged expansion of the enterprise. On July 7, 1838, Congress, at his urgent solicitation, made to Dr. Perrine a grant of a plot of Florida land 6 miles square (36 square miles) on which he intended to introduce and acclimate trees, shrubs, and plants from all over the world, and to experiment with mango, sisal, cinchona, and other tropical and subtropical plants.

This grant lay to the west of Chapman Field, named after Manuel Chapman, first American aviator killed in World War I. The site was quite near the present location of the Department of Agriculture's Coconut Grove (Florida) Plant Introduction Garden is now located. About two years after Dr. Perrine undertook this pioneer enterprise he was slaughtered by Seminole Indians on Indian Key. An old document preserved by David Fairchild in the Plant Introduction Garden describes this tragic drama though, after seeing small Indian Key, one wonders precisely how it could have occurred as narrated in the document.

In any case Perrine was murdered by Indians. His name survives in a Florida village and a telephone exchange. His wife and son sought to continue his enterprise, but it finally lapsed. Yet it was a brave and farsighted experiment, forecasting the signal success of exactly similar undertakings by later plant explorers of the Department of Agriculture.

It was also in 1838 that a naval exploratory expedition sailed to the South Seas under Captain Charles Wilkes and returned with many strange, interesting, and exotic plants. These were placed in greenhouses adjoining the Post Office Building and were later moved to the greenhouse which formerly stood on the Mall and formed the nucleus also of the Botanic Garden in Washington. Thus we clearly approach formal Federal Government aid to agriculture.

This was part of a worldwide tendency. We have already mentioned the formation of the British Board of Agriculture. However, England was a little slow in giving agriculture government aid. A Veterinary Department, socalled, became part of the Privy Council in 1865, because of a cattle plague then raging in the United Kingdom; it was renamed the Agricultural Department in 1883. But the British Ministry of Agriculture was not created until 1919, when it took over the existing Board of Agriculture and Fisheries.

Prussia had a Board of Agriculture and, subordinate to it, a Board of Rural Economy, by 1857. The Government liberally supported these institutions and fostered agricultural legislation, education, and societies, the last being extremely active. Until 1853, Austria had a Department of Rural Economy and Mining, then this was abolished, the agricultural work being placed in the Ministry of the Interior.

France, in 1860, had an agricultural department or ministry comprising a director, three chief clerks, three assistant chief clerks of bureaus, and twenty-seven other clerical employees. It was under control of the Minister of Agriculture, Commerce, and Public Works. There was a Bureau of Agricultural and Veterinary Instruction and a Bureau of Encouragement to Agriculture and Relief. The third bureau concerned itself with legislation, tariffs on agricultural products, prices, fairs, cattle markets, and with regulations governing the making of bread, the sale of provisions, and the management of slaughterhouses.

Russian interest in agricultural statistics was manifested as early as 1803, when the Ministry of the Interior began collecting them. From 1837 on this work was carried on in the Department of Rural Economy, Ministry of Domains. As early as 1802, Czar Alexander admonished the Academy of Science to disseminate widely information on agronomic inventions and improvements, and Russian agricultural publications began to appear.

Transactions of Russian agricultural societies, containing all sorts of agricultural information, were being widely published as early as 1857. An Agricultural Gazette had been established in 1834, however, and it appeared at Government expense. The Scientific Committee of the Ministry of Domains began, in 1842, to offer prizes for the solutions of agricultural problems and to hold agricultural shows.

Russian agricultural education went back much further than this, however, for special instruction in husbandry was patronized by Czar Paul in the 1700's. Various agricultural seminaries and agronomic institutes were founded early in the 1800's and agricultural associations received money from the crown as early as 1765. It was naturally embarrassing to many American advocates of Government aid to farm enterprise that Russia should be so far ahead of us.

Belguim had a Superior Council of Agriculture by 1860. It was composed of delegates from provincial councils. The primary agricultural societies received money from the Government. They organized fairs, exhibitions, and competitions, and sought in every way to promote agricultural advancement. There were also agricultural and veterinary schools at that early date, while the Government was introducing improved breeds of cattle.

Finally, to terminate this sketchy European review, Spain made provision for consideration of agricultural matters in her Department for the Promotion of Public Welfare, also by 1860. There was a Royal Council of Agriculture, Industry, and Commerce with subordinate bodies in the provinces. The Queen herself presided over the association of herd owners and the Government did much to promote agriculture, cattle raising, and rural industry.

Where was the United States in such matters in 1860? It had an Agricultural Division in the Patent Office manned by a superintendent, four clerks (including translators and writers), a curator or gardener, and his assistants. The Government was spending $53,000 on agriculture that year, mainly on the distribution of plants and seeds.

In 1856, the State of Maryland had appropriated $6,000 a year for the perpetual support of an agricultural college -- provided $50,000 could be raised privately. It was. The homestead of Charles B. Calvert, prominent in the U. S. Agricultural Society -- 428 acres near Bladensburg, Md., was purchased for the purpose and the school opened in 1856, much after that in Michigan.

All of this was not a great deal, but it was a far cry from days when American agriculture was originally pursued by Indian squaws for their braves. These good ladies of our earliest society raised tobacco, beans, peanuts, pumpkins, squashes, potatoes, sweetpotatoes, tomatoes, maize, and occasionally, domestic animals also. Their equipment consisted of clam shells, the scapulae of buffalos, the antlers or horns of deer or elk, and pointed sticks of wood. There is no evidence that they ever received Government aid and their farm techniques were primitive indeed. But their hill method of sowing corn, potatoes, and beans has remained a fundamental farm technique on this continent.

But here we are at Blodgett's Hotel again. We should trace the early history of the Patent Office a bit to see how it arrived here. A system of patent registration was established in this country in 1793. George Washington personally urged passage of our first patent law and himself examined and signed the patents granted under it -- along with Secretary of State Jefferson. However, that custom lapsed as patents increased in number and an ineffectual system of registration was established.

Under this registration system a patent could not be refused if the application were duly filed, no presumption of validity being required. Until 1802 the Patent Office occupied one room in the Department of State and most of its work was performed by a single part-time clerk. We have already seen how it moved into Blodgett's Hotel in 1810. Soon chaos ruled under the faulty registration system but it took quite a while for something to be done about it.

However, public agitation for a new law finally had its effect and, on July 4, 1836, President Jackson -- who had always championed the cause of small farmers -- signed the patent act still in force today. The first Commissioner of Patents to take office under this new law was Henry L. Ellsworth (1791-1858) son of the third Chief Justice of the Supreme Court, Oliver Ellsworth. Before he came to Washington Ellsworth had practiced law, farmed, become a leader of the Hartford County Agricultural Society and head of Hartford's Aetna life insurance company, while he resigned as mayor of Hartford to become head of the Patent Office.

He took the position June 15, 1836, and moved into the top floor of Blodgett's Hotel. Ellsworth, active in agricultural, business, and civic life, had a real passion for farm progress. This was not unnatural since, before 1860, he had gotten hold of 110,000 acres of land in Indiana and Illinois which he let out to tenants. After his resignation he went to live in Lafayette, Ind., to look after his holdings.

So great was Ellsworth's interest in agriculture that, during the first two years of his term, he gratuitously distributed the plants and seeds transmitted to him, at his own expense. He was greatly impressed by the number and ingenuity of patents then being granted in the field of agriculture. Because farmers insisted to him that they needed Government aid he began in turn to insist that such aid be given. Naturally a bureaucrat who spent his own money to assist the public aroused considerable curiosity, even in 1836.

Finally, on January 21, 1839, the Hon. Isaac Fletcher of Vermont, chairman of the House Committee on Patents, asked Ellsworth for more complete information about what he was doing to aid farmers, and what additional assistance he proposed. Ellsworth replied so effectively that establishment of an Agricultural Division in the Patent Office followed in due course.

For that matter Ellsworth wrote extremely interesting and readable annual reports. He was a born information specialist in this respect. At one time John Quincy Adams half querulously remarked that a Patent Office report so fascinated him as to absorb him and make him as much as four hours late for an appointment. Popular interest in the reports induced Congress to print them for distribution in an issue of 25,000, a rather amazing thing in those days.

The first of Ellsworth's reports has grown scarce and the Department of Agriculture copy is kept under lock and key and can be consulted only by appointment! It is dated January 1, 1838, but it covers 1837 and also the half-year Ellsworth served in 1836. It was addressed to James K. Polk, then Speaker of the House of Representatives. In it regret was expressed about the burning of Blodgett's Hotel with destruction of the Patent Office's valuable historical records and models.

Ellsworth also observed that of late inventors "have directed their attention, with peculiar interest, to the improvement of implements of agriculture, and many labor-saving machines have been patented, which are of the highest utility to the husbandryman. These are rapidly increasing; and it is scarcely possible to conjecture to what extent the labor of the agriculturist may be diminished, and the products of the country increased, by these improvements."

Horsepower was already widely used for sowing, mowing, and reaping. Said Ellsworth: "Inventors are sanguine in the belief (and probably not without reason) that the time is not far distant when ploughing machines will be driven by steam, and steampower applied to many other operations

of the husbandman . . . A subject intimately connected with this, is the aid that husbandry might derive from the establishment of a regular system for the selection and distribution of grain and seeds of the choicest varieties for agricultural purposes. . . ." But, he went on:

"Husbandry seems to be viewed as a natural blessing, that needs no aid from legislation." Yet commerce and manufacture were aided by Government. Ellsworth thought it unwise to regard products of the soil as pure bounties of Providence. He proposed that the Government help Providence along a little. The Patent Office was crowded with inventors who brought models for improving farming and were eager to communicate their knowledge. Others wanted to disseminate information about new and valuable plants.

"Hence, the undersigned (Ellsworth) has been led to receive and distribute, during the past two years, many articles of this kind which have been committed to his care; and experience has induced him to believe that there is no spot in the Union so favorable to this object as the seat of Government." Ellsworth thereupon suggested the Patent Office as a fitting depository for plants and seeds brought back from foreign parts. He mentioned the recent introduction of a new wheat variety which resisted severe winters better than any previously available. He insisted that many crops, Indian corn included, could be improved greatly by varietal selection.

He even submitted figures to demonstrate that, if new varieties increased the wheat crop 10 percent, it would mean an improvement in the national income of from 15 to 20 million dollars a year. The same idea would apply to other crops. Ellsworth concluded by asserting that the Government should take all sciences under its wing!

Reporting for the year 1838, on January 1, 1839, Ellsworth remarked that the building in which the Patent Office was located was sorely crowded. He also observed that, although the law authorized only two examining clerks, the two he had were much overworked and he needed as many more. In his two-page report for 1839 he said: "The ordinary expenses of the Patent Office the past year, including payments for the library and agricultural statistics, were $20,799.95." The diplomatic corps would henceforth send back seeds from their foreign stations.

During 1839 the huge sum of $126.40 had been expended for the collection and distribution of agricultural seeds and statistics. For the letter he had written Representative Fletcher on January 22, 1839, had borne fruit. Therein he said that he had merely been trying as best he could to promote agricultural interests. For instance, numerous letters had come to him indicating how greatly variety selection increased yields of corn. The same was true of wheat. Furthermore, if Congress desired, he could arrange to collect more and better agricultural statistics.

Farmers needed such statistical information for, in their lack, they sold their crops disadvantageously and only speculators profited. Besides a new era of labor-saving machinery was dawning. Flax could now be spun on cotton machines. Sugar could be made from beets. Silk could probably be cultured and manufactured in the United States, making it unnecessary for us to import 20 million dollars worth of it annually. Everything conspired to make the dawning farm epoch a bright one, depression or no depression, and there was a depression then. If Congress so directed, the Patent Office could render great assistance to farmers and farming.

Congress yielded. It went on a wild binge of extravagance. It was then considering a bill, favored by President van Buren, to widen the scope of the Sixth Census. So it tacked on a proviso granting the Patent Office permission to expend for agricultural purposes $1,000 of its income -- the office then as now being self-supporting from fees. However, this large sum was not to be spent all at once; it should last several years -- and it did!

No further grant was made until fiscal year 1842, when another $1,000 was made available. Double that sum was granted for 1843 and 1844 together, and this rose to $3,000 for fiscal year 1846. But no grant was made in calendar year 1846, and the agricultural work languished in fiscal year 1847. Thereafter there was never a lapse. The appropriation was $3,000 for fiscal year 1848, and $4,500 in 1849, 1850, and 1851. It rose to $5,500 in 1852, was $5,000 in 1853, then suddenly jumped to $15,000 in 1854.

Subsequent appropriations were $25,000 for 1855, $55,000 in 1856, $75,000 in 1857, and $63,500 in 1858. By that time agriculture definitely amounted to something as a governmental activity. The work had gone into the Department of Interior with the Patent Office in 1849, and the establishment of the Department of Agriculture loomed by 1858.

The work very naturally began in the Patent Office, for it concerned itself with experimentation and the stimulation of enterprise and invention. Hence, the stimulation of scientific progress in agriculture was quite germane. However, this was a time of deep economic depression with banks closing their doors and speculative manias abounding. There was a strong tendency to grab at almost anything, however exotic or unlikely, which might solve farm problems by magic. On the other hand many highly practical projects were proposed.

Throughout this consideration of the Department's history we should keep in mind the factors that made the Department of Agriculture what it gradually became. Frequently types of service instituted began because various organized groups insistently demanded something of the kind. Their influence was sometimes applied and felt directly, as when they appealed to Congress, as they often did. At other times they addressed their appeals to Government officials who, in turn, brought them to the attention of Congress.

Besides pressure groups and civil servants there were from time to time notable individuals, typified by John Muir, whose civic interests and foresight led them to sense emerging public problems and to exert their influence before the people as a whole understood. Finally, there was the influence of political leaders -- men like Senator Morrill and Representative Lever; Presidents Lincoln, Wilson, and the two Roosevelts; Secretaries of Agriculture like Wilson, Houston, and the two Wallaces. Such persons appraised ideas and pressures and promoted policies and legislation which they believed would best serve the public interest in times of rapid change.

Each successive new function of the Department of Agriculture will be found outlined in an Act of Congress. The expression that "The Department of Agriculture did so and so" must always be interpreted as a concise method of saying "The Department of Agriculture, responding to public demand exerted upon Congress which passed an appropriate piece of legislation authorizing the activity, did so and so."

We now turn to consider Federal aid to agriculture as it was in Patent Office days.

III -- The Patent Office Gives Farmers Aid

Henry L. Ellsworth served as Commissioner of Patents until April 30, 1845, when he resigned to take up his residence in Lafayette, Ind., and to manage his huge acreage. There he remained until he returned to Fair Haven, Conn., a few months before his death on December 27, 1858. He was an enlightened and progressive public servant with many ideas far in advance of his time.

In reporting his activities for 1840, he expressed the hope that the Patent Office could soon move into its new building, but this move was delayed because much of the structure had to be occupied temporarily by an emergent national institution provided by a Mr. Smithson of England. The Smithsonian Institution was being born. Appropriations had been relatively small, but 30,000 packages of free seed had been distributed. A total of $451.58 was expended for agricultural purposes.

But the work was carried on despite "extreme pressure in the money market." And, writing of 1841, in January 1842, Ellsworth exclaimed: "If the application of the sciences be yet further made to husbandry, what vast improvements may be anticipated!" He also eulogized agricultural chemistry and held it to be of extreme importance to agriculture. It had already enabled the West to find oil a valuable export. It had shown how pork fat could be converted into stearine for candles, thus providing a substitute for spermaceti.

Chemistry had demonstrated how ten gallons of oil could be derived from a hundred bushels of corn meal. Already one commercial company was seeking to supply the lighthouses of the Great Lakes region with this oil. Chemurgy and industrial chemistry were emerging even then. If corn meal and pork could thus supply oil for burning and for lubricating machinery, what next?

Ellsworth also described a new method, confirmed experimentally in Delaware, by which the sugar content of cornstalks could be so increased that a thousand pounds of sugar could be produced per acre of corn. This was accomplished by removing the ears before they were well formed and letting the stalk mature. German chemists had done wonders by this method; Ellsworth thought we should not neglect it.

The method really appears to have stemmed from a discovery by a French botanist made in 1840, and it occupied the attention of Department of Agriculture scientists for many years, though it never became practical here. Interest was then stimulated by a decline in British colonial sugar production, after the abolition of slavery in 1838, when it looked as if we might face a sugar shortage. In any case, Ellsworth was alert, though methods of making sugar from sorghum deflected interest from cornstalks before very long.

Ellsworth believed that the United States imported far too much and that, with the new ocean steamers available, it should rearrange its agriculture so as to export wheat. This subject continued to interest him throughout his term of office. Much later the Department of Agriculture devoted a great deal of attention to domestic production of materials and commodities otherwise imported.

Ellsworth also believed fervently in the value of collecting and publishing agricultural statistics. For instance, said he, if in 1840, Indian corn could be purchased at a dollar per 196-pound barrel on western waters, and transportation to New York via New Orleans did not exceed a dollar and a half a barrel, the price of corn meal should never run higher than eighty cents to a dollar a bushel in the East. But exorbitant prices could be controlled effectively only if farmers and the public knew these facts.

This sublime faith in the efficacy of statistics prevailed for years. It was long felt that if the farmer just had access to accurate agricultural statistics he could become king. For he could always withhold his products from market during bad times and thus foil speculators. But farmers never came to understand statistics well enough to accomplish this miracle and effectually better their positions. Instead they soon found themselves buying in a price-fixed market while forced to sell for what monopolies agreed to pay. Ellsworth's report reviewed yield statistics for various crops. But the Patent Office expended only $105.75 on agricultural statistics in 1842, and not much could be done on that even then. Yet Ellsworth felt that those published were appreciated.

Ellsworth's report also requested certain scientific books for the library and expressed the belief that an agricultural bureau should be created to put farm aid on a permanent basis. Ellsworth was certain that the expenditure of additional Federal funds on agriculture would be highly beneficial. Then more crop data could be secured and more information disseminated regarding agricultural equipment and cultural methods. The Commissioner was sure that even relatively small additional appropriations would put millions annually into the pocket of the public.

In the volume published by the Patent Office to cover its agricultural activities during 1842, there were articles on making cornstalk sugar, foreign markets, improvements in fencing land and in farm housing, the effect of railroads on commerce and agriculture, American exports and imports, the British tariff, and the Corn Laws. In addition, numerous letters were printed which came in from unpaid correspondents conveying agricultural information. This custom of printing correspondence long prevailed.

In the report covering activities during 1843, Ellsworth spoke enthusiastically of the recent successful use of the newly invented telegraph instrument. He also discussed the possible therapeutic effects of electricity. His final report, covering activities during 1844, comprised a book of 520 pages, with index. It contained still more about the telegraph and included a letter from inventor Morse reporting on telegraphic transmission of the proceedings of the Democratic National Convention held in Baltimore, May 1844.

By now agriculture had become a major interest of the Patent Office. Several grains had been analyzed and it was hoped dyspeptics would soon learn from these analyses how to avoid meals containing excessive quantities of oil. New methods of fencing, constucting farm houses, manuring, tillage, drainage, subsoiling, and deep plowing were discussed. The usual thousands of packaged seeds had been distributed. Naval vessels were now picking up plants and seeds in foreign ports to bring them home, but funds were lacking to package and ship these from the American ports where they were put ashore, hence many of them died. Ellsworth asked an extra thousand dollars to solve this problem and Congress granted it.

Potato diseases were causing concern. The hessian fly required control. Ellsworth felt that many things should be done for American farmers. Yet, though the husbandryman might be depressed momentarily by low crop prices, "he is cheered by the reflection that he is far better off than those in the professions proverbially crowded" -- because he, at least, raises enough to eat. Continued Ellsworth: "How much better for the young man of this country to aspire to the enviable rank of a scientific and successful agriculturist, than to grasp at the shabby honors that are momentarily cast upon the brows of political combatants." To quote further:

"Mowing and reaping will, it is believed, soon be chiefly performed on smooth land by horse power. Some have regretted that modern improvements make so important changes of employment -- but the march of the arts and sciences is onward, and the greatest happiness of the greatest number is the motto of the patriot." How thoroughly modern is this reference to the close relationships between agriculture, industry, and technological unemployment. But the Commissioner went on:

"There is, however, a dark cloud which hovers over the Republic. The incubus debt has lost its terrors, and obligation carries with it little self-reproach. Past experience is disregarded." It is doubly unfortunate that imports increase now when the value of agricultural products is low. "Has not the time arrived for the South and the North to commence retrenchment and practice more rigid economy? The wheel of fortune will not turn out profits, nor can patents be granted for paying debts."

This last annual report of Ellsworth's also contained much material from correspondents. Two of them who discussed the cotton situation sound extremely modern. They asked Government aid in disposing of their surplus. Overproduction and low prices ruled. They suggested that new uses also be sought for the surplus -- for instance, making mattresses; otherwise only a season or two of unfavorable weather which would reduce yields and carryovers could help. It was feared that the carryover would be disastrously high by 1847.

At this point Ellsworth bowed out and Edmund Burke (1809-1882) became Commissioner of Patents May 4, 1845, holding office until May 8, 1849. Burke was born in Vermont and had practiced law and edited the Argus in New Hampshire for some years before he became Commissioner of Patents. During his term the agricultural report was greatly expanded. It began to include tables of American and British imports and exports, as well as British cotton quotations. The agricultural statistics had to be omitted one year, for lack of an appropriation, but they reappeared later.

In 1849, the Patent Office became part of the new Department of the Interior. In December of that year President Zachary Taylor recommended the establishment of a Bureau of Agriculture in this new Department and in his Message insisted that governmental assistance to agriculture was wholly inadequate, but Congress took no action.

Commissioner Burke's report covering the year 1845 noted the expenditure of $2,392.41 for agricultural purposes and it contained over a thousand pages of agricultural matter. For lack of an appropriation, no report appeared for 1846, the next one being dated January 1848, and

covering 1847. Burke mentioned the interruption of agricultural work because Congress had made no funds available and said that its resumption on renewed funds was difficult.

He pronounced agriculture to be "the great transcendent interest of the Union." He wrote that the farmer had "equal reason to console himself with the honorable character and exalted dignity of the pursuit in which he is engaged. No occupation offers a greater field for experiment, and for the application of science directed by sound judgment. Experience has proved that every grain, vegetable and fruit, is susceptible of improvement by scientific cultivation."

Next were related magic transformations of the potato, the peach, the apple, and other fruits and vegetables which had been refashioned by scientific means. The Commissioner remarked that genius had "stooped from its lofty flight" to lessen the burden of the farmer's toil, giving him useful implements and valuable machines. He insisted that the Patent Office be enlarged and its scientific staff increased.

Reporting in January 1849, for 1848, Burke mentioned a Congressional appropriation of a thousand dollars to be used for developing a system of analyzing grains produced in this country and of flour milled for export. It was anticipated that the study would show the effects of soil and climate upon different grain varieties and of sea voyages upon the quality of flours. Prof. Lewis C. Beck of New Brunswick, N. J., a practical analytical chemist, was to make these analyses, while Charles L. Fleischmann had been engaged to study sugar culture in Louisiana. Their reports appeared in the same volume announcing their appointment.

The sum of $2,608.17 had been expended for agricultural purposes in 1848, and the annual report contained copious discussion of agricultural chemistry by various authorities. But Burke admitted that some inventors were complaining because the Patent Office spent too much on agriculture, yet he felt no injustice had been done them. For the collection and dissemination of agricultural data not only enhanced the reputation and influence of the Office, it also contributed to quicker application by the people of numerous inventions.

Thomas Ewbank (1792-1870), who followed Burke in office, serving from May 19, 1849 until October 31, 1852, was born in Durham, England, and began life as an apprentice in the sheet-metal trade. Coming to this country in 1819, he was successful as an inventor, manufacturer, and author, his primary interest being industrial applications of chemistry and physics. Between 1845 and 1848, he traveled extensively in South America. It was his grandfather, Thomas Ewing, who became first Secretary of the Interior, in 1849.

Possibly because his own primary interest was not in agriculture, Ewbank directed that a "practical and scientific agriculturist" be appointed to supervise agricultural matters in the Patent Office and to prepare the separate annual agricultural report. Daniel Lee M.D., a former editor of the Genesee Farmer and professor in an agricultural school in Georgia, received the appointment. He retained office until 1853.

Ewbank directed that agricultural statistics be omitted from the report. He held those published hitherto to have been unreliable and therefore declined to "waste time and paper in printing crude guesses." Instead, he said that Congress and the State legislatures should devise methods of procuring sound statistics worth printing. Part II of the Patent Office's annual report, concerned with agriculture, appeared in 1850, to cover 1849.

Lee, who signed it, received a salary of $2,000 a year which was reduced to $1,500 by 1852, and a little later D. J. Browne, his successor, was employed at the same figure, but was raised to $2,000 by 1855. There are indications that Lee's services were not wholly satisfactory. Certainly his passion for soil preservation and the virtues of "nightsoil" was unabashed, unbounded, and omnipresent.

Lee addressed his report to Commissioner Ewbank and titled it "Statistics and Progress of Agriculture in the United States for the Year 1849." It contained condensations of replies to many letters of inquiry from the public. Likewise included in the bound volume were numerous essays on agricultural topics and many discussions of agricultural education. Lee said that farmers had long and repeatedly begged State legislatures and Congress for small appropriations to prevent universal impoverishment of the soil, but all in vain. For:

"Neither the earnest recommendation of the illustrious farmer of Mt. Vernon, nor the prayers of two generations of agriculturists, nor the painful fact that nearly all tilled lands were becoming less and less productive, could induce any Legislature to foster the study of agriculture as a science."

With considerable asperity he remarked that a grant of one thousand millions of dollars, however judiciously expended, could hardly restore the 100 millions of acres of partly exhausted lands in the Union to their primitive state of virgin richness. Lee estimated that a farmer actually lost from $175 to $200 worth of valuable soil constituents every time he raised and sold a $1,000 worth of produce. Thus he realized profit only by consuming the natural fertility of his soil.

Lee continued in every report to stress the urgency of soil conservation. He condemned the lack of mental culture and discipline among farmers which made it so difficult to instruct them. He said that they so misdirected their immense power of production as to impoverish the soil annually to an extent fully equal to their apparent annual profits from farming.

He learnedly discussed such matters as the effects of tillage on soil nutrients, run-off, drainage, and rainfall. One of his major articles for 1850 was entitled "The Study of Soils." The book contained other articles by experts within or outside the Patent Office, all on topics of agricultural interest. The ravages of insects demanded attention. Soils, marls, and fertilizers should be analyzed, said the report, and farm animals improved. Rural science must come into its own, because urban demands induced farmers to destroy the fertility of their soil to appease city appetites. Meteorological statistics appeared for the first time.

Part II of the Report of the Commissioner of Patents for 1851 was issued under date of April 23, 1852. This time it was addressed to the Hon. Linn Boyd, Speaker of the House of Representatives. It contained nothing by Lee, but comprised numerous articles on such topics as agricultural education, the cultivation of special crops, and cattle breeding, and the customary replies to incoming inquiries printed to inform others as well as the original inquirer. Lee presumably prepared the book.

Agricultural statistics reappeared in the 1851 publication; they were derived from the Census. It was also stated that the creation of an agricultural bureau in the central Government had now been a subject of public discussion for years, that Congress was actively considering the idea, and that agricultural writers and practical farmers were urging the project along.

Presidents Taylor and Fillmore, like George Washington, had brought this matter to the attention of Congress. So far, however, mere employment of a temporary clerk in the Patent Office, whose salary, as did the cost of buying and distributing seeds, came out of the patent fund, was all that had been accomplished. Whereas some objected that agriculture had no greater claim upon Congress than other industries, the French Republic had established an agronomic institute in 1848, and we ourselves should have an agricultural agency in the Government. So ran the argument.

Well up in front of the volume containing the report for 1851 is what purports to be an address by one "A. Williams, Esq.", on the presentation to a Mr. Horner of a silver goblet for having grown the best vegetables and grains shown at a San Francisco exposition. Williams extolled the great natural wealth of California, its gigantic trees and luxurious gradens, but he deplored the high rents in San Francisco.

He then held up a statement signed by 12 worthies of the county of Santa Cruz whom he proceeded to name. This statement attested that, on land owned and cultivated by James Williams, an onion had grown to the enormous weight of twenty-one pounds and a turnip "'was grown which equalled exactly in size the top of a flour barrel.'" On the land of Thomas Fallen a cabbage had grown which measured 18½ feet in circumference. To quote directly:

"Added to these astonishing productions is a beet, grown by Mr. Isaac Brannan, at San Jose, weighing sixty-three pounds; carrots, three feet in length, weighing forty pounds. At Stockton a turnip weighed one hundred pounds. In the latter city, at a dinner for twelve persons, of a single potato, larger than the size of an ordinary hat, all partook, leaving at least the half untouched. These may be superlatives, but they do exist, and they show what our soil and climate are capable of producing."

Easterners have a three-letter word which would supplant "superlative" in this connection, but the statement at least demonstrates that California boosters are nothing new under the sun. Of course, as Williams continued, such things were no more incredible than the fact that California soil also produced "gold of every conceivable form and size, from dust up to lumps weighing 30 pounds" -- or, indeed, than that it produced Williams himself almost a century ago. ¶In the exposition before him the speaker remarked that he saw Shelton's mammoth clover, with stalks from one root covering 81 square feet!

He also observed a red sugar beet 28 inches in circumference; a cabbage weighing 56 pounds and 7 feet around, cucumbers 18 inches long; onions 5 to 7 inches in diameter, weighing 3 to 4 pounds, and yielding 70,000 pounds to the acre of an average weight of a pound each. Likewise he saw before him 10-pound bunches of grapes, 2-pound tomatoes, 50-pound cabbages, and squashes and pumpkins weighing from a 100 to 150 pounds. Judge for yourself; form your own conclusions, if you are not from California!

Under date of February 28, 1853, Daniel Lee covered agricultural progress for 1852. By this time Silas H. Hodges (1804-1875) of Vermont was acting Commissioner of Patents, serving from November 1, 1852 until March 23, 1853. He was a Vermont lawyer who audited the accounts of that State for 5 years and, between 1861 and 1875, he was Examiner-in-Chief of the Patent Office, dying in Washington, D.C., the latter year. In his letter transmitting Lee's report he made this curious observation:

"It would have been gratifying to have given a new character to the work, and to have made it such as would better satisfy the wants and tastes of the best informed among those for whom it is especially intended. Soon after entering upon the duties of this Office, I made strenuous efforts to have this effected, but directly found that no competent person would undertake such a task at so late a period."

In any case Lee had prepared a 15-page article on Progress of Agriculture in the United States, which was essentially his swan song. He still saw ruin ahead unless accelerated soil exhaustion was slowed down. He said that two-thirds of the improved land in New York State was damaged to the extent of at least $3 per acre per year and deplored "the practice of drawing on American soil as an inexhaustible capital." He held 100 million acres of the 125 million then under cultivation in the Nation to be suffering damage at the same rate as the soil of New York. Lee anticipated that we would have 50 million inhabitants within less than a quarter of a century, and the subsoil must not be robbed if they were to be supported. More research was urgent, and he then went on:

"Three years ago, when the writer took charge of the agricultural department of the Patent Office, he begged permission to expend $200 in experiments designed to ascertain the best way to deodorize and concentrate night soil, that it might be put in bags and sent far into the country for agricultural purposes; but not a dollar could be had. To expend $100,000 in printing, binding, and distributing through the mails a book on agriculture, and at the same time refuse $200 for the most valuable information within our reach to put into a book, seems like being penny-wise and pound-foolish."

Lee again accused the cities of seducing farmers into sending them their soil riches in the form of produce. He said that no generation had a right to destroy the soil, a sentiment echoed many years later by Henry A. Wallace and Hugh Bennett. He demanded an end to soil pollution and favored the establishment of agricultural schools to teach the young sound principles of soil-building science.

It was around 1849, that Jonathan Turner of Illinois began his campaign for industrial universities. This was part of the long struggle for popular and agricultural education which culminated in passage of the Land-Grant College Act of 1862. In 1850, the "frontier" at last reached the Pacific, following the discovery of gold in California. Free land was becoming an increasingly urgent issue. The people believed that Uncle Sam had enough land to grant some to all of them; between 1850 and 1870 farmer's clubs maintained incessant agitation. So long as land was plantiful and labor scarce, few would heed Lee's admonitions to preserve the soil.

The volume containing the agricultural annual report for 1852 also included a long article on the potato, another on southern agricultural exhaustion, and a prize essay on the value of phosphate. Shortly after it was issued, R. C. Weightman became acting Commissioner of Patents, serving from March 25 until May 15, 1853. On May 16 Charles Mason (1804-1882) of Ohio was appointed Commissioner by President Fillmore. He made Daniel Jay Browne editor of the agricultural reports because critics had rather sharply condemned Lee's efforts.

Mason was a native of New York who attended West Point as a classmate of Robert E. Lee, but he resigned from the Army, in 1831, and turned to the law and journalism. For a year or so he was acting editor of the New York Evening Post. Later he became president of two railroads and also Chief Justice of Iowa Territory. He settled in Washington, D.C., after retirement as Commissioner of Patents and took up patent law, but in time reentered politics in Iowa.

During Mason's term the agricultural reports contained fewer letters from correspondents and more learned essays of substantial character by writers like Joseph Henry, first Secretary of the Smithsonian, and other distinguished persons. A 2-acre tract between 4½ and 6th Streets and Missouri Avenue was set aside, in 1856, for the study of sorghums, the seed produced being distributed. This marks the origin of the propagating garden. Mason also first employed that brilliant English agriculturist and entomologist, Townend Glover. The arrangement with the Smithsonian for the publication of meteorological statistics was made in 1855. During the same year a chemist and a botanist were employed part-time.

The agricultural report for 1853 stressed the recent introduction of the soybean, contained abstracts of correspondence regarding cattle, and trifled with the possibility of importing camels for several pages. Gophers, birds, bees, Indian corn, bread crops, textile crops, forage crops, fertilizers, fruits, vegetables, climatology, miscellaneous crops, and agricultural statistics, were discussed, indicating considerable broadening of interest. Some reports from unpaid correspondents were included.

The following were discussed in the agricultural report for 1854, dated February 6, 1855: Experiments with seeds, domestic animals, insects, fertilizers, bread crops, textile and forage crops, tobacco, sugarcane, sorghum, broomcorn, tomatoes, capers, okras, fruits, nuts, wine, gardening, "live fences" or hedges, and climatology. The list is accurately prophetic of the Department's future organization and lines of service. Mason established many precedents which still hold. In 1856,he appealed to the States to supply reliable agricultural statistics and sent out printed forms upon which they were to be recorded.

Mason's agricultural report for 1855, dated 1856, mentioned an appropriation of $75,000 for agricultural purposes. This money, expended in 1857, was very largely used for seed distribution. However, the importance of entomology and of chemical analyses was stressed, and the services of a botanist were mentioned. Fertilizers, livestock, and plant-adaptation problems were discussed.

Were agricultural appropriations a departure from Constitutional warrant? asked the Commissioner. While admitting he had no right to discuss this, for his sole duty was to carry out the wishes of Congress,

it did seem to Mason that there was as much warrant in the Constitution for agricultural appropriations as for the establishment of a naval or a military academy. Surely it was as lawful to promote the arts of peace as of war. They were as useful and as germane to the general purposes of our Government.

Indeed millions annually were devoted to the encouragement and security of commerce. Why not the same for agriculture? Is manufacturing protection more national in scope than aid to agriculture? Congress manipulated the tariff for manufacturers. Why leave farmers to their lone individual efforts? Surely it is proper for agriculture to share public funds. At least that was the way in which Commissioner Mason argued with himself.

Topics discussed in the volume of 1857 were: Animals, land improvement, bread crops, fertilizers, textiles and forage crops, fruits, nuts, wine, implements and tools, meteorology, and statistics. Again the functions of a future Department of Agriculture are outlined. The determination of the Commissioners to have some sort of agricultural agency established in the Federal Government stiffened annually.

On September 9, 1857, Joseph Holt (1807-1894), a Kentucky lawyer, became Commissioner of Patents, after Samuel T. Shugert had been acting Commissioner in the August 4-September 9 interval. President Buchanan made the appointment largely as a reward for Holt's aid in bringing about a party victory. But Holt was a man of parts who became Postmaster General, in 1859, and, soon after, Secretary of War. Later Lincoln appointed him Judge Advocate General of the Army, and he had much to do with the development and codification of our military law, and the supervision of court martial procedure.

Browne also edited Holt's two agricultural reports. In 1859, Holt sponsored a gathering of representative farmers which formed an Advisory Board of Agriculture for the Patent Office. This met sharp Congressional disapproval and decreased appropriations. But the Board enthusiastically approved the agricultural work being done and requested more of it. In this year also Maryland Agriculture College was opened to students and Charles Darwin's origin of species appeared. There was much American interest now in the tea plant. Steam-operated tractors were being given unsuccessful trials which, however, aroused widespread interest. Grimm alfalfa was introduced into the country.

Agricultural education and the demand for free land were much to the fore. Many and varied groups were agitating for agricultural colleges, the distribution of public land, and more Federal aid to farmers. If Congress would not appropriate money to found the colleges, it was suggested that it provide for them by sales of public land. Both movements met consistent opposition on the part of the southern delegation to Congress, which sincerely believed that the doctrine of State's rights precluded such Federal assistance to States. A land-grant college bill did, however, manage to pass during Buchanan's administration, but the President vetoed it because he thought such grants to the States both extravagant and unconstitutional.

The agricultural report of the Patent Office for 1858 contained condensed replies to over 1,700 questions which had been sent out to unpaid agricultural correspondents all over the land. The replies were printed for public information under appropriate subheads. At this point both Commissioner Holt and Agriculturist Browne left office. Shuggert again acted as Commissioner for a few days. Then, on May 7, 1859, William D. Bishop (1827-1904), a former railroad president and member of Congress,

was appointed Patent Commissioner by President Buchanan. He served until February 14, 1860, when he returned to railroading and politics.

The very next day Philip F. Thomas (1810-1890) took office, but he resigned before the end of that year, on December 13, 1860. He was a Maryland lawyer who had also been a member of Congress. He had declined appointment in the Cabinet of President Pierce, but became Collector of Customs at Baltimore. On his resignation as Commissioner he became Secretary of the Treasury in Buchanan's Cabinet and, in later life, returned to Congress. No annual report bore his name as his service was too short.

The 1860 agricultural report was edited by Thomas G. Clemson, founder of Clemson College, who described himself as Superintendent of the Agricultural Division. From December 14, 1860 until March 28, 1861, S. T. Shugert was again Acting Commissioner. By this time the Agricultural Division was expending about [redacted] $53,000 a year and it employed a superintendent, four clerks, a curator and gardener and some aids for the last. We return now to Bishop's report, dated 1859, but covering activities of 1858.

The book contained no agricultural statistics. The Patent Office had now carried on work in the field of agriculture for 12 years. Bishop, in a brief foreword to the report, urgently insisted that free distribution of domestic seeds be discontinued, and that only seeds of foreign origin be sent out. He felt that the remainder of the money expended for seeds might better be spent on agricultural investigations and the compilation of statistics. It was many years before the seeds distributed were even tested for viability and the waste of Congressional seed distribution ended only in 1924.

The volume under discussion contained a description and diagram of the new experimental propagating gardens. Washington's encouragement to agriculture was counted and agricultural history was discussed. D. J. Browne identified himself as the Superintendent of the Agricultural Division of the Patent Office. Many articles by different writers appeared in the book which, in this respect, somewhat resembled the Yearbooks of Agriculture, the first of which appeared in 1894. It is interesting to read on page 249 of this old 1858 report, a description of the steam plows used in England and, on page 253, the description of a new traction engine. Other articles discussed the use of steam plows and steam cultivators in various parts of the United States. The book likewise contained a long article by Samuel D. Backus, a New York architect, primly entitled "Some Hints Upon Farm Houses."

Acting Commissioner of Patents Shugert made the agricultural report covering 1860, and Thomas G. Clemson, grandly identifying himself as the "Superintendent of Agricultural Affairs of the United States," wrote some preliminary remarks. Once more the encouragement given to agriculture by various European countries was reviewed, and it was maintained that the United States required more than a mere division in the Patent Office devoted to farm affairs. To be sure the division had grown since it was created, but not enough.

Clemson stated flatly that the United States should have an agricultural department. It was natural we had had none in early days, but now the need was urgent. Science had fully vindicated itself during the last quarter century, and it was the duty of Government to care wisely for the public domain -- a broad hint that arable land was a public trust. These statements undoubtedly reflect the status of much enlightened public opinion in 1860.

Again it was insisted that free seed distribution was less necessary. Instead, funds and attention should be devoted to the exhausted soil and to fostering greater use of machines and steam power in farming. The agricultural societies, which had been nagging the officials, were urged instead to appeal to Congress for additional public aid. The question was again raised as to whether it was judicious for the Patent Office to carry on even such agricultural work as it did.

Much could be done if there were a good chemical laboratory -- for instance even in selecting materials from which public buildings were constructed. It was stated that the Executive Mansion, the central part of the Capitol, the Patent Office, and the Treasury Building were already falling to pieces because of unwise selection of building materials used in them!

The following subjects were also discussed: English husbandry, irrigation, grasses for the South, diseases of animals, bee culture, fish propagation and culture -- a subject long considered agricultural here -- injurious insects, wine making, grape culture, forests and trees of North America, tea culture, and Chinese farming methods. The most important item under cattle diseases was much dreaded contagious pleuro-pneumonia. The subject matter portends the origins of various bureaus -- chemistry, entomology, forestry, plant industry, fisheries, animal industry.

This brings us to the last Commissioner of Patents to have charge of the agricultural work. He was David P. Holloway (1809-1883), an Ohio native who assumed the office March 28, 1861 and served until August 16, 1865. He was primarily a journalist interested in agriculture and was

for many years associated with the Whig journal, the *Palladium*, published in Richmond, Ind. He had been a member of both houses of the Indiana Legislature, and of the House of Representatives as well, where he was chairman of the Committee on Agriculture. As such he had introduced a bill to establish a department of agriculture.[1]

He made very effective pleas for increased Federal farm aid in his annual reports and otherwise. His report for 1861, issued in 1862, was the most complete agricultural manual so far issued by the Patent Office, but it contained statistics only on milk production and consisted in the main of essays on progress in American agriculture. However, it comprised less material than usual extracted from journals, newspapers, and books.

In this important volume Holloway launched a fervent plea for the establishment of a government institution to serve agriculture in this country where three-fourths of the citizens were still farmers. This reflected a rising tide of public opinion or it would not have been written. Actually the Republican party promised free land, improved agricultural education and some government agency to serve agriculture, in order to attain power by Lincoln's election. Holloway spoke of the wide variety of our soils and pointed out that scientific investigation was needed to ascertain which crops and cultural methods were best adapted to them. He thus coupled successful farming with wise land use. He declared that millions of acres must be reclaimed, preserved, and enriched.

Why, he asked, was pork worth $2.50 a hundred pounds in Illinois and wheat only a quarter a bushel in Iowa? Why was land worth $100 an acre in New Jersey and nothing in Kansas? It was because Illinois and New Jersey had city customers right at hand. The farmer must be aided

by the industrialist, for they were mutually dependent, a doctrine reiterated by Henry A. Wallace 75 years later.

Worthless breeds of cattle must be supplanted by shorthorns on rich pasture. Agricultural instruments and tools must be improved and rendered more widely available. We should have in Government a Ministry of Industry composed of three bureaus -- agricultural, mechanical and commercial. This plea also reflected the agitation by pressure groups.

Such reiterated statements indicate very clearly why the Department of Agriculture was founded. The subject matter discussed in the Patent Office's agricultural reports as clearly indicates those things which were regarded as important by farmers and just why agriculturists desired further Government aid. There were articles on all the following subjects in this Holloway document:

The history and cultivation of flax and hemp; raising sheep and wool growing; artificial manures; hog cholera; the Territory of Colorado; San Barnadino County, Calif.; raspberry culture; strawberry culture; the worn-out lands of New Jersey; the consumption of milk; cotton in Missouri; the destruction of noxious insects; the pear orchard; farming in New England; Indian corn; hop culture; sorghum culture and sugar making; recent progress in agricultural science; Sandomir wheat; reclaiming salt marshes; lupine; silkworms of China; food; horses of New England; wheat growing in Prussia; a model dairy farm; select sheep and cattle breeds; grape growing, the culture of the vines, and wine making; fruit culture; the relation of entomology to soil productivity and a daintily titled gem -- "Something of the Philosophy and Chemistry of Manures."

In the 5 years before 1860 agricultural exports had averaged $229,371,400 in value annually, and comprised 82.4 percent of all our exports. The South was in the political saddle. Conflict between the industrial North and the plantation South became increasingly acute. The tariff had been revised down to the lowest point on record in 1857, reflecting southern influence, but the high Morrill tariff act was passed in 1861.

The price of good agricultural land continued to rise during 1860. The country's population was then 31 millions, about half of it on farms. The Irish potato famine had occurred. The Corn Belt had begun to stabilize where it now is, while new means of transportation stimulated increased commercial farm production and provided incentive for settlement and cultivation of prairies and plains. Food export to Europe increased. Free land was a vital issue.

When thousands of farmers went off to fight the War Between the States the use of agricultural labor-saving machinery expanded spectacularly. Whereas only 20,000 mowers were manufactured in 1861, the figure rose to 70,000 in 1865. The same thing was true for other farm equipment, so that increased production might be achieved with fewer and less efficient hands. Meanwhile urban industrial population was increasing rapidly.

The time was ripe for the creation of the Department of Agriculture, and upon this pressure groups insisted. Various suggestions were made, one to the effect that the head of the agency should be democratically elected by the farmers. The Southern delegation always inclined to

regard such an establishment as unconstitutional, no longer sat in Congress. The new Republican party, which had just come into full power, was in close alliance with northern farming interests.

Several pieces of farm legislation were now being considered at the same time. Yet there were also those who contended that even such appropriations as agriculture already received should be discontinued. We shall next consider the establishment of the U. S. Department of Agriculture.

IV -- Who Is Isaac Newton?

The southern sympathies of Thomas G. Clemson, which led him to reside in South Carolina when the Civil War began, left vacant the post of Superintendent of the Agricultural Division in the Patent Office. But when Clemson resigned, March 4, 1861, there was appointed to succeed him a curious individual named Isaac Newton (1800-1867), about whom the most paradoxical accounts have come down to us. Yet, because of his close personal friendship with Abraham Lincoln, he was destined to become our first Commissioner of Agriculture. He died in office, July 19, 1~~9~~8 67.

Clemson had a plan for creating a Department of Agriculture which was not even publicized. He had constantly demanded expansion of the old Division's functions plus the supervision of public lands. But the times were unfavorable until secession brought a new majority from a new political party into Congress. We have seen what Holloway urged in his final report. Caleb B. Smith, Lincoln's Secretary of the Interior, in his annual report to the President, contented himself with the routine request that a bureau of agriculture be established in his Department.

Lincoln almost casually passed this recommendation along to Congress saying: "Agriculture, confessedly the largest interest of the Nation, has not a department, nor a bureau, but a clerkship only assigned to it in the Government. While it is fortunate that this great interest is so independent in its nature as not to have demanded and extorted more from the Government, I respectfully ask Congress to consider whether something more can not be given voluntarily and to great advantage. . . .While I make no suggestion as to details, I venture the opinion that an agricultural and statistical bureau

might profitably be organized".

There is fairly clear evidence that Lincoln regarded himself rather as a man of the ax than of the plow, and that his personal interest in agriculture was slight. He was much more enthusiastic about extending canals and railroads than in farming but, as a politician, he was not insensible to the aims of the Free Soilers to whom he had obligated himself. Though Lincoln took scant interest in it, the Homestead Plank has been the basis of many appeals during his campaign. He took little or no part in working out the Land-Grant College legislation. Yet withal he was the last President of a predominatingly agrarian United States.

Unprecedented westward expansion of the Nation had continued, accompanied by great development of transportation facilities and an enormous influx of emigrants. The invention and use of new machinery proceeded vigorously. Farm products increasingly entered into both domestic and foreign commerce. Agriculture was being tremendously affected by profound changes in our society.

The agricultural legislation proposed by the new Republicans in large part tended to extend and perpetuate exploitation of the public domain, rather than to stabilize production and improve techniques. But Lincoln apparently thought of these proposals in terms of winning the war, not those of future necessities. He did not seem to see greatly beyond a system of small capitalists, free-soil farmers, and enlarged opportunity for all. During the war increased farm production was highly desirable, but it contributed later to overproduction, declining prices, and land abuses.

But the fact that the delegation from the South no longer sat in Congress greatly facilitated passage of the act founding the Department

of Agriculture, signed by Lincoln on May 15, 1862, as well as of the Homestead Act, which he signed May 20, and the Land-Grant College Act, fathered by Justin Smith Morrill of Vermont, signed July 2, 1862. In actuality the Republicans had favored all this legislation during their campaign, and they now made good on their oratory.

The Homestead Act provided for the apportionment of freehold farms of 160 acres each, from the public domain, to citizens who would make homes on and till them for five years. The Land-Grant College Act endowed the colleges of agriculture and the mechanical arts, chosen by each State, with 11 million acres of public land, nearly twice the area of Morrill's native Vermont. The States were authorized to sell this land and to use the proceeds for the endowment of the colleges which were thereafter to be State-operated. This law initiated the familiar grants-in-aid to the States, which invention some erroneously attributed to Franklin D. Roosevelt.

Passage of the act founding the Department of Agriculture was more a gesture of good will than anything else. Even in the wartime emergency the new Department lacked control over food. The war merely provided the occasion, not the impulse for its founding. Farm agitation had been vociferous, but sporadic and usually local, until the United States Agricultural Society, founded in 1852, gave it national scope. For two decades before the bill creating the Department was enacted there had been continuous agitation for the establishment of some such agency. The Society focused and empowered this diffuse clamor.

Indeed the Society passed out of existence after the Department became a reality. It numbered among its members many leaders of national prominence. Others equally prominent, including several Presidents and ex-Presidents of the United States--Fillmore, Pierce, Buchanan--attended

its meetings and read or contributed to its publications. It became by far the most potent factor or lobby for directing both official and non-official attention to the agricultural needs of the time.

The Society repeatedly went on record as favoring the establishment of a national Department of Agriculture, meantime implying that Patent Office agricultural work was inadequate and insufficient. The Society's desire was to have a Cabinet officer head the new agency.. Its work and influence undoubtedly had more to do with passage of the act founding the Department than any other single factor. It was unceasing in its labors from the time its call first went forth for a national convention of agriculturists to meet in Washington, and it was formed.

That call was answered by 150 delegates representing many farm societies. They met in June 1852, proposed and created a national organization, and elected Hon. Marshall P. Wilder of Boston their president. The time was ripe for this move, so response was ready.

It is true that most of the Commissioners of Patents had been professional or businessmen of Cabinet calibre. The heads of the Agricultural Division had generally been capable, and had maintained communication with the leading workers and writers of the agricultural industry. But farm journals quite consistently denounced "Patent Office agriculture." It was said that the seed fund had been carelessly wasted, that the statistics published were inaccurate, and that the officials were incompetent. Later on the seed dealers, the press in general, the scientists and others joined in the controversy.

Though sometimes inspirational, "Patent Office agriculture" had been relatively futile. In 1859, the Advisory Board of Agriculture met, at the request of the House Committee on Agriculture, and after discussion made a report

recommending the creation of a Department of Agriculture, but this report was suppressed.

After Lincoln made his recommendation to Congress various proposals were offered, though the basic idea aroused little opposition. When the bill agreed upon reached committee discussion in the House, Owen Lovejoy and Charles B. Calvert, both prominent in the U. S. Agricultural Society, as well as others, sought to provide an independent department with a commissioner at its head. To this Lincoln raised no objection.

The suggestion of Senator Joseph Wright of Indiana that an agency comprising four bureaus be set up, with a commissioner at its head at an annual salary of $5,000, was overwhelmingly defeated. Members of Congress themselves then received only $8 per diem, and were docked when absent! On the other hand, when Senator Hale discussed the proposed department he asserted that the prevailing attitude of the farmers might be expressed as: "For God's sake let us alone!"

In those days there was no compact farm bloc to unify opinion and put power behind it. Professional consultants disagreed strongly regarding procedure. Finally the Department was established as a result of no broad, well thought-out plan. Instead there was a veritable outburst of political apathy and inertia on the subject.

Some held that the legislation was so persistently lobbied by Superintendent Isaac Newton of the Agricultural Division, and his supporters, that no one else ever had a chance to head the agency. The opposition warned ominously of increased Federal power and centralization, but the venture was launched. The final compromise proposal provoked but 7 opposing votes, from eastern and border States, in the House, while 13 easterners or middle westerners opposed in the Senate.

As established, the Department had an anomalous status. It was the first, and proved to be the longest continued trial of departmental organization without executive status. Ostensibly a bureau, the new agency was called the Department of Agriculture, but had as its supervising officer a Commissioner who did not sit in the Cabinet. Lincoln promptly appointed to the job his old personal friend and helpful political errand boy, the head of the Agricultural Division in the Patent Office, Isaac Newton.

Newton was born in New Jersey of Quaker parentage, but grew up in Pennsylvania. He had limited formal education, but his reports were written in a somewhat pompously erudite style. Around 1840, he had assumed management of two farms owned by Paul Hubbs, a sea captain, in Delaware County, Pa. Newton remained on the farms after Hubbs and his two sons were lost at sea during a final voyage the captain wanted to make on his ship before retiring.

Newton's management of the farms was eminently successful and he became rather widely known in agricultural circles, and entered politics. He installed an elaborate underground drainage system on the farms, built excellent fences, barns, and tool houses, had eight hired men and two dairy maids--the latter imported from Wales--excellent dairy cattle and some fine sheep.

A surplus of milk and cream persuaded him to set up a confectionery shop on Chestnut Street in Philadelphia. He also made fine table butter and sent a box of it to the White House weekly, even before Lincoln's time. A prize calf that Newton sent to President-elect Fillmore had been boxed and exhibited by the recipient in the Capitol Building.

About 1855, Newton, against his wife's better judgment, bought a 1,000-acre farm in Prince William County, Va. As his wife refused to move there, he tried to manage it through his half-brother, Samuel Garwood.

Things went very well until malaria and the Civil War combined to ruin the venture, whereupon Newton found himself broke and jobless. So his friends suggested that he go to Washington to live, try to meet the right people, and get on the Government payroll. This he did. He met a very "right" person in Lincoln and became his friend for life.

In 1861, Commissioner of Patents Holloway placed him in charge of the agricultural work, at $3,000 a year, and he came to live on C St., between 3rd and 4th, N.W., Washington, D.C. Indubitably he was a political wire puller. He ran all sorts of little political errands for Lincoln. He made and shrewdly used good connections. Naturally Lincoln made him the first Commissioner of Agriculture, even though this aroused vigorous protest. His political enemies accused Newton of incompetence and even of illiteracy, and of waste and malfeasance in office. But others staunchly defended him.

Farm journals rarely expressed confidence in him. For instance the Rural New Yorker for July 26, 1862, reprinted an item from the New York Argus which attempted to answer the question: "Who is Isaac Newton?" Newton was described as a gentleman from Pennsylvania who had purveyed butter to the White House while Pierce was President, and had moved his establishment to Washington during Buchanan's administration. But the Argus doubted whether sound judgment on good butter was a sufficient qualification to certify Newton's competence. The Rural New Yorker indicated its own doubts by featuring this item. The strong implication was that any good farmer would pronounce Newton wholly unfit for his job.

Newton had been active in agricultural societies and he had modest natural ability. He had the practical man's self-assurance, but was wholly unfamiliar with the nature and procedures of scientific specialists. Garrulous as well as self-confident, he lacked the trust of many who mattered.

Yet Lincoln consistently supported him and praised his conduct of the Department. During the war, when the President's life was potentially threatened by poisoned food, Newton was detailed to the White House to watch over the victuals consumed there.

While there he became a friend and confidant of Mrs. Lincoln. He helped her out of numerous embarrassing situations which developed from her strong propensity to run up large department store bills--one was for $27,000--for the clothing she supposed her station required her to wear. Newton sometimes paid the smaller bills and permitted Mrs. Lincoln to reimburse him in installments out of her household funds. On other occasions he acted as intercessor with a rather severe Lincoln. Newton also accompanied Mrs. Lincoln when she visited spiritists for consolation after the death of a son.

However, after Lincoln's assassination, President Johnson responded to the continued pressure for a change in the Department's head. He nominated Joseph C. G. Kennedy, former Director of the Census and long prominent in the U. S. Agricultural Society, to succeed Newton. But the nomination proved politically unacceptable to Congress and Newton, who had by then suffered a stroke, was permitted to retain the office until death. There were 30 active candidates for the position on his demise.

As to his wasting Government funds, said J. B. Turner of the Prairie Farmer, even if this charge were true, he thanked God that farmers had at last gotten near enough that "great public crib at Washington" to waste a pittance. Turner continued: "I care not, in this view of the case, if they have spent all the money in distributing dead rats and Canadian thistles." But Lincoln stolidly disregarded adverse criticism of his Commissioner, and continued to call him "Friend Newton."

It was Newton who selected the present grounds of the Department of Agriculture, a 40-acre tract also used during his incumbency as an experimental farm. In July 1866, he sat in his office in the old Patent Office Building and heard an approaching thunderstorm. He remembered certain samples of wheat which had been cut but not put away. So to save them from injury by rain, he snatched his high silk hat and hurried a mile or more over to the experimental grounds. There he bustled about frock-coated until the hot July sun felled him. He never fully recovered from the effects of this sunstroke.

It cannot be too much emphasized that farm aid was not a pulse-quickening subject when the Department of Agriculture was organized in those two basement rooms. Gentleman farmers had, in the main, led the agitation for the Department's establishment. Perfunctory mention only was made in farm journals of the Department's organization. The press almost unanimously ignored it. The New York Tribune's editorial tribute to the Thirty-Seventh Congress, placed the establishment of the Department last in the list of its accomplishments, and altogether omitted mention of the Land-Grant College Act. On the other hand, passage of the Homestead Act, the most liberal land law on record, and one which fostered rapid settlement of the public domain, did excite enthusiastic comment.

The gentleman farmer had few aims in common with the dirt farmer. Agricultural educators ranged from enthusiasts for manual-labor schools to specialized chemists imbued with the minutiae of Germanic laboratory techniques. There was considerable interest in the idea of establishing national colleges for the advancement of general scientific principles, and for industrial, rather than agricultural education. The West was jealous of eastern control of markets and credit; the East envied cheap western production. There was some fear that the public domain would be exploited for individual benefit. It was. Meanwhile the war burdened agriculture.

Prof. Earle D. Ross holds that the new legislation afforded no relief. He writes: "The department--anomalous in nature since while independent it was not of cabinet rank--was launched under political rather than scientific auspices with an amiable but incompetent, politically-scheming market gardener at the head. The scientists, the brain trusters of their day, were neglected or, in certain notable cases, summarily dismissed." Opportunity to plan a new deal for agriculture was entirely neglected.

In the main, the Department early concerned itself with distributing exotic seed, and it largely lost the respect of both agricultural scientists and journals. For many years it had little appeal to the actual dirt farmer. The Nation made no effort to plan land settlement soundly, or to control land speculation and exploitation. In fact, no controls were lodged in this new Department. Hence an unnatural extension of farm-crop belts took place, and new farm machinery was widely and increasingly utilized to produce food to win the war.

Economists of the day took the farmer for granted, or else ignored him. In the light of hindsight, the time was strategic for planned prevention of looting natural resources, and for putting more Government into the disorderly business of agriculture. Provision of improved farm credit facilities at that time might well have forestalled the later Greenback discontent. The orderly development of land use and occupation would have balanced rural-urban populations more scientifically. But the Nation had neither an economic nor an agricultural policy at that time.

Voluntary efforts to control problems affecting many of the wealthier farmers had failed. Such efforts to impart skills and teach production methods as were made by the agricultural societies had proved inadequate. It was the societies themselves which finally insisted that the Government

perform these functions. The growth of commercial farming accelerated. Many farmers now produced commodities that went floating down canals or spinning away on rails to consumers they never saw. They therefore formed part of the money economy, and they wanted to gain some measure of equality with businessmen with whom they dealt.

The Act establishing the Department of Agriculture reads as follows:

> *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there is hereby established at the seat of Government of the United States a Department of Agriculture, the general designs and duties of which shall be to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants,
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> SEC. 2. *And be it further enacted,* That there shall be appointed by the President, by and with the advice and consent of the Senate, a "Commissioner of Agriculture," who shall be the chief executive officer of the Department of Agriculture, who shall hold his office by a tenure similar to that of other civil officers appointed by the President, and who shall receive for his compensation a salary of three thousand dollars per annum.
>
> SEC. 3. *And be it further enacted,* That it shall be the duty of the Commissioner of Agriculture to acquire and preserve in his Department all information concerning agriculture which he can obtain by means of books and correspondence, and by practical and scientific experiments, (accurate records of which experiments shall be kept in his office,) by the collection of statistics, and by any other appropriate means within his power; to collect, as he may be able, new and valuable seeds and plants; to test, by cultivation, the value of such of them as may require such tests; to propagate such as may be worthy of propagation, and to distribute them among agriculturists. He shall annually make a general report in writing of his acts to the President and to Congress, in which he may recommend the publication of papers forming parts of or accompanying his report, which report shall also contain an account of all moneys received and expended by him. He shall also make special reports on particular subjects whenever required to do so by the President or either House of Congress, or when he shall think the subject in his charge requires it. He shall receive and have charge of all the property of the agricultural division of the Patent Office in the Department of the Interior, including the fixtures and property of the propagating garden. He shall direct and superintend the expenditure of all money appropriated by Congress to the Department, and render accounts thereof, and also of all money heretofore appropriated for agriculture and remaining unexpended. And said Commissioner may send and receive through the mails, free of charge, all communications and other matter pertaining to the business of his Department, not exceeding in weight thirty-two ounces.

SEC. 4, And be it further enacted, That the Commissioner of Agriculture shall appoint a chief clerk, with a salary of two thousand dollars, who in all cases during the necessary absence of the Commissioner, or when the said principal office shall become vacant, shall perform the duties of Commissioner, and he shall appoint such other employés as Congress may from time to time provide, with salaries corresponding to the salaries of similar officers in other Departments of the Government; and he shall, as Congress may from time to time provide, employ other persons, for such time as their services may be needed, including chemists, botanists, entomologists, and other persons skilled in the natural sciences pertaining to agriculture. And the said Commissioner, and every other person to be appointed in the said Department, shall, before he enters upon the duties of his office or appointment, make oath or affirmation truly and faithfully to execute the trust committed to him. And the said Commissioner and the chief clerk shall also, before entering upon their duties, severally give bonds -with ities to the Treasurer of the United States, the former in the sum of of ten thousand dollars, and the latter in the sum of five thousand dollars, conditional, to render a true and faithful account to him or his successor in office, quarter-yearly accounts of all moneys which shall be by them received by virtue of the said office, with sureties to be approved as sufficient by the Solicitor of the Treasury; which bonds shall be filed in the office of the First Comptroller of the Treasury, to be by him put in suit upon any breach of the conditions thereof.

Approved, May 15, 1862.

While the enacting clause obviously justified every activity in which the Department has since engaged, the law offers no evidence that any balanced social or economic programs for agriculture were even visualized, much less desired. But the act certainly gave the agency wide latitude and discretion. Broad generalized grants of authority by Congress did not begin with the New Deal. Neither did deficits, Lincoln having been the first President to keep the budget in the red throughout his term, a custom his five successors followed.

The act also specifically prescribed the appointment of professionally qualified employees. While Newton was somewhat remiss regarding clerks--he removed a capable one to place his nephew, and two of his sons quickly became Department employees--men of good education, qualifications, and professional standing were employed as scientists.

William Saunders, botanist, superintendent of the propagating garden and later a founder of the Grange, Townend Glover, the entomologist, Charles M. Wetherill, the chemist, and Lewis Bollman, statistician, and

editor were all persons of excellent training, experience, and capability. But there was a good deal of political pressure, personal contention, and insecurity of tenure, not to mention low salaries, during the Department's early days.

Glover had at one time resigned while working for the Patent Office because of his displeasure regarding his supervisor's editorial mandates. He vented his spleen in caricature, at which he was most adept. Charles C. Parry, the botanist, warred with various Commissioners and also with the entomologists of his day. Newton frequently failed to understand the nature of his scientists and thus started squabbles. He finally dismissed Wetherill in a passion.

In early 1863 Commissioner Newton reported for the last half of the year 1862. The Department having been created in midyear, he had only six months to cover. Wetherill, who had become chemist August 21, 1862, had issued his first scientific paper, a 6-page booklet entitled "Report on the Chemical Analysis of Grapes," in the very midst of which he implored Congress to provide him with sufficient funds to get his chemical laboratory in shape to render effective service. His was the first research paper ever issued by the Department.

Newton began his report by quoting and discussing the organic act. He then announced, as that act so specifically required, that between July 1, 1862 and January 1, 1863, the sum of $34,342.27 had been expended, leaving him an unexpended balance of $25,657.73. He suggested that Congress grant him $130,000 for the fiscal year ending June 30, 1864, "which is deemed a low estimate"--but which he did not get. He remarked that crops had yielded abundantly and that exports were greater than ever, despite the war.

The Commissioner eruditely discussed the history of agriculture in ancient Rome, attributing the fall of the empire to the refusal of the Romans to till the soil. He skimmed through agriculture's subsequent history, observing that little real progress had been made until the past 30 years. He cited the recent helpful modifications of the cast-iron plow patented in New Jersey in 1797, and especially the increasing use of farm machinery. Crop yields and their value were detailed.

Naturally Newton felt that the first necessity in promoting agricultural prosperity was peace. He cited the second as continued and increasing foreign and domestic demand for farm product; the third, rather unexpectedly, as enhanced respect for labor; and the fourth, a more thorough knowledge and practice of agriculture as an art and a science; fifth stood a more thorough education of farmers in the physical sciences, political economy, and general reading.

Hitherto farmers had been taught, and had become accustomed to cultivate virgin soil. They must now unlearn these old habits and theories in favor of utilizing manures, crop rotations, careful cultural methods, and intensive cultivation. Farmers could no longer move on to rich frontier land so easily as in the past. They must stay put. The old routine of tilling, sowing, and harvesting was useful enough when unoccupied rich land was readily available. But now, as Newton phrased it--quoting Dean Swift's King of the Brobdingnags--the farmer must learn "to make two blades of grass grow where but one grew before."

Consequently, said he, science, the "what and how to do . . . . the concentrated knowledge of the ages," must be invoked. Newton defined science as "classified knowledge illustrated in practice and confirmed by experience, and as certain and eternal as truth itself." Applied chemistry

stood foremost in the Commissioner's mind, for he felt it could reveal the nature and composition of soils, as well as the kind, use, and value of manures, and the principles of nutrition. Had not Sir Humphry Davy said: "Nothing is impossible to labor aided by science."

The labor of one man profited him five times more in Massachusetts than in South Carolina simply because knowledge was power in the former. The farmer must study all the sciences to be successful--meteorology, electricity, botany, hydraulics, vegetable physiology, geology, anatomy, animal physiology, and both animal and plant pathology. Like all of Newton's annual reports this one was sonorously phrased.

He stated that the Department's immediate objectives would be to: (1) Collect, arrange, and publish useful agricultural information; (2) collect and introduce valuable plants, animals, and seeds; (3) answer the inquiries of farmers and be guided by them in selecting subject matter for publication; (4) test by experiment the use of agricultural implements and the value of seeds, soils, manures, and animals; (5) undertake the chemical investigation of soils, grains, fruits, vegetables, and manures, publishing the results; (6) promote botany and entomology; (7) establish a Library and a Museum.

Both were established, though the latter was discontinued some years ago. But Newton's program throughout still seems sensible and remarkably broad in scope. To begin with he said that the Department should institute chemical investigations; study cotton culture; endeavor to introduce silkworms from China; promote the culture and use of flax and hemp as substitutes for cotton--this by special act of Congress; and introduce and naturalize the "alpacca", and the "true opium poppy!" Then Newton became prophetic, saying: "It is hard to realize, and yet as true as Holy Writ, that some who shall read to-day these lines, will live to see one

hundred millions of freemen dwelling in this dear land of ours."

The bound volume containing Newton's report included also reports from chemist Wetherill and statistician Bollman. Scant justice can be done here to its 632 pages containing articles of widely diverse subject matter, many by contributors who did not work in the Department.

One of these, a Dr. W. W. Hall of New York City, provided a veritable classic on the "Health of Farmers' Families," which contained a sprightly section on the "Hardships of Farmers' Wives" that is unreservedly recommended to the attention of historians, antiquarians, and the gentry in general. Once again, in the report for the following year (1863) Dr. Hall rose to the occasion and expatiated at great length, with much wholly unconscious humor, on "Farmers' Houses." His discussion of current medical theories regarding the disease-causing "miasm", and his genteel and dainty philosophy of outhouses must be read entire to be appreciated.

The present writer embalmed accounts of these articles in the Medical Record for February 21 and July 17, 1940, under the general heading "Critique." Dr. Hall sought to correct the common misapprehension that farmers lived long, healthy lives. On the contrary they more often died young and went insane. They thought low depressing thoughts, lived a routine life, ate and dressed improperly, often became overfatigued, and neglected reading, thus letting their minds decay. The insane asylums were filled with them and their wives who, in addition to other hardships, had also to contend with the farmers themselves.

Too often the farmer's wife was a drudge and a beast of burden, who worked harder and endured more than her lord and master, though he habitually addressed her in an impatient, petulant tone of voice and frequently found fault with her before the servants. Even the wealthy

farmers rarely provided conveniences for their wives, but permitted them to haul water from a mile distance and try to fire the cookstove with green wood, then insolently reprimanded them regarding late meals. Farmers were said rarely to make even the most urgent repairs to the house until some member of the family contracte neuralgia or pneumonia.

Hence Dr. Hall admonished farmers to reform their ways and to treat their wives not only as human beings but as partners in their joint enterprise. The farmer was told to make due allowance for the whimsical nature of his wife, and to buy her a ribbon now and then. He should also occasionally take a bath, dress up, and drive the wife over to some neighbor's for a good meal she didn't herself cook. He must never war against her "better nature," for woman is "as naturally tasteful, tidy, and neat in herself, and as to her surroundings, as the beautiful canary, which bathes itself every morning." Even when the wife becomes temporarily insane -- as must frequently and inevitably happen with so delicately organized a creature -- the farmer must be patient and yield to her caprices.

There should also be mentioned here the article by Mrs. L. B. Adams of Detroit on "Farmers' Boys," printed in the 1863 volume, and the one on "Female Life in the Open Air", by Mrs. Lavinia K. Davis, in the volume for 1866. Nor should Miss L. C. Dodge's discussion of "Education of Farmers' Daughters" be missed in that same 1866 volume. All these articles reflect trends of thought considered important at the time of publication and afford insight into prevailing living conditions.

For instance, Mrs. Davis accused the much-eaten hot bread, "indigestible as putty," of causing epidemics of dyspepsia, and she also advised young American women to get more oxygen into their lungs. She insisted that very few of them knew how to cook well, and observed that the wise Arabs permitted divorce of a wife who could not make good edible bread. To her notion a woman was "a broken reed" who could not produce "the staff of life." Domestic science and home economics were already on the horizon. You will find more detail in The Truth of the Matter, by the present writer, in the Medical Record, October 15, 1941.

Turning now to Friend Newton's report for 1863 we find that it featured meteorological data derived from Joseph Henry, Secretary of the Smithsonian. The publication of such material continued in the annual book until 1870, when the weather investigations were transferred from the Smithsonian to the Army Signal Corps. From there they came to the Department of Agriculture in 1891 and left for the Department of Commerce in 1940.

The book also contained a long article about the "neglected agricultural" State of Virginia, with favorable predictions of what it could become "at the close of the present unnatural and causeless war," when a new and better life awaited it. Agricultural information was already coming in from widely scattered correspondents who worked gratis. Seed distribution flourished. But the Commissioner said that more facilities

must be provided for experimentation and that he must also have more office and laboratory space generally.

Reservation No. 2, the entire tract comprising the Department's future grounds, was then still being used by the Army as a cattle yard. The half dozen rooms now occupied by the Department in the basement of the Patent Office building were much too crowded, and increased appropriations were needed all along the line. Bureaucrats were no different in Lincoln's day.

True, there were those who had held that the farmer only wanted to be let alone, but farmers were quite free to accept or reject the aid offered by the Department. There was no compulsion about it. Yet farmers on the Atlantic seaboard were still plowing the same stones their great-grandfathers had plowed before them. Such fields should have been turned to timber long ago--a very modern idea quite in line with current land use policy. Newton insisted that this business of using 10 acres of land to grow 200 bushels of corn when 4 acres of good soil would do the job, was not sensible.

Only ignorant farmers want to be let alone, said he, and they should not be permitted to remain ignorant, Farmers had neither the time nor the ability to experiment and to investigate plant and soil relationships, nor could isolated individuals collect and arrange stores of knowledge for practical use. Therefore the Department was essential. By aiding tillers of the soil it would benefit the entire Nation. So reasoned Newton.

He went on that immense benefit would accrue if telegraphic transmission of weather information by the Department could be arranged from scattered stations. He said that agricultural statistics should be encouraged in every possible way, because they formed the "key which is to unlock the hidden treasures of maturing nature." Newton visualized this

Nation as "a mighty giant, resting firmly on the soil and acquiring development and strength by toil, by thought, and by equity."

Newton's next report to Lincoln was dated December 1, 1864; it covered the 1864 fiscal year. He had now divided the Department's work into the following categories: (1) The collection of statistics relating to annual crops; (2) the preparation of tables on the production and value of domestic crops; (3) the collection of information on general and important topics relating to agricultural production; (4) the publication of monthly and bimonthly reports.

Even then, as throughout the Department's history to the present day, much valuable information was obtained from unpaid correspondents all over the Nation to whom circular questionnaires were and are regularly addressed. These individuals serve with great devotion and derive much personal satisfaction and some prestige from their unremunerated activities.

The report for 1864 also contained special articles on such subjects as clover, lime, plaster as a manure (the word then covered fertilizers in general), sheep farming on the Pampas, and much general information. The Commissioner declared that frequent and prompt publication was fundamental, and observed that the organic act creating the Department directed it to disseminate agricultural information.

Again Newton had tried to obtain possession of Reservation No. 2, but the Army doggedly hung on. However, he did manage to get hold of it soon, and he also rented two small basement rooms near his downtown office to provide increased desk space. A large force of laborers was put on the Reservation 2 to clear it. Soon 67 varieties of potatoes and as many of spring wheat, and 55 of fall wheat were growing there under test--in part where the Department's Administration and South Buildings now stand.

In 1865, Newton reported, there had been great demand for free seed, interest in sugar beets had increased, and the Museum had received a geological and mineral cabinet. The Commissioner thought that this country should try to produce its own sugar, and Department chemists worked on this project for many years, though we never have produced our entire domestic needs.

In this annual report for 1865 Newton observed that his report for 1863 had just appeared. It had been delayed by wartime paper shortages in the Government Printing Office. He renewed his suggestion about sending weather reports by wire. The appropriation for this fiscal year had been $150,604.05.

Prosperity had reigned in many areas during the war. The Corn Belt began to stabilize where it is today. Wisconsin and Illinois were still the greatest wheat-producing States, but the Wheat Belt was moving West across the Mississippi. The Cotton Belt had also started a westward migration, leaving the exhausted lands of the Southeast. The North continued to export food, and its industries were prosperous. The South could not now export cotton, and sharecropping began to replace slavery there.

Newton reported to the President for 1865 under date of November 27 that year. The fiscal year covered ran from July 1, 1864 to June 30, 1865, though it was called fiscal year 1865. This was the period of reconstruction. Some Department scientists had been sent to Europe to observe and report. Their travel had been most economically achieved. For instance, it had cost only $500 to send Townend Glover to an entomological exhibit in Paris--and naturally he brought back more silkworms.

William Saunders was now actively at work on Reservation No. 2. Oranges, tea, coffee, silk, figs, olives, cinchona, new cultural methods for ordinary crops, fruits and nuts, suitable grasses, forestry, and reclamation each engaged its share of attention. But the Department

still signally lacked financial support commensurate with the tasks the public expected it to undertake, nor did it have proper research equipment to carry on fundamental studies of complex agricultural problems.

Politics prevented sustained and vigorous leadership and often necessitated continuance or even expansion of questionable policies like free seed distribution. In a broad, but somewhat ineffectual way, the Department sought to increase the field of human knowledge, and to solve the problem of raising and stabilizing farmer income through the spread of accurate statistical information. Meanwhile the chemist worked on sugar beets, soils, copper ore, and oil rock--some of his time obviously being diverted from agricultural materials and problems.

The volume containing the annual report for the fiscal year 1866 was the last signed by Newton. Therein he extolled agricultural progress since the war ended. He skimmed lightly through many specific accomplishments, again emphasized the necessity for prompt and frequent publication, observed that unpaid correspondents had rendered service of great value, and announced that the Department had expended $162,600 for the year.

By this time Congress had heeded Newton's plea for more office and laboratory space, and had appropriated $100,000 to erect the old Red Brick Building, which stood on the Department grounds until 1930. The structure finally cost $140,000, including furniture and equipment. It had the most modern heating plant in the country, when completed, but its first telephone was not installed until 1879.

A stable for the Secretary's horses, and resembling a Swiss chalet, was erected in 1879. In 1881, the sum of $20,000 was granted to provide a building for the Seed Division and the Division of Statistics; in it entomology, plant industry and several other lines of endeavor also were housed. A greenhouse was erected in 1883. Thereafter no more

buildings were provided until after "Tama" Jim Wilson assumed office. By that time the crowding was intolerable, and the Department had expanded into all sorts of unsuitable property in the vicinity and elsewhere, much of it rented at exorbitant rates.

A Library had been started while the Agricultural Division was in the Patent Office. That was in 1840, when a clerk had been appointed to gather useful agricultural information and statistics. But it was 1869 before the Department gained possession of the books and added them to its own incipient Library which has grown to be one of the finest in the world. Then it occupied the entire west end of the first floor of the new building, and the first librarian, J. B. Russell, was appointed in 1871.

The Department's early publications were chiefly in the form of scientific and technical reports, and the annual and monthly reports. Distribution of the latter was effected along political lines, so that many who needed and could have used the publications did not get them. Later on, bulletins began to appear independently from the Department's various specialized divisions. The monthly reports began to appear in 1864,but were discontinued around 1876. They constituted a sort of agricultural periodical which was replaced by the publication of bulletins in series and of specialized periodicals.

Writing in 1872,on The Department of Agriculture, Its History and Objects,James M, Swank, then chief clerk, said: "The Department has aided greatly, by the publication of tables of this character, (i.e. containing agricultural statistics) in protecting alike consumers and producers from the exactions of grasping speculators." He then mentioned a Maine farmer who had written in to say that the monthly statistical reports furnished him accurate guidance for,"knowing the supply and demand, I am able to sell

at my own price, and we can also foresee what will probably be wanted next year!" This was felt to be one of the Department's most effective contributions to the public.

Jacob R. Dodge, who became statistician towards the end of Newton's term was distinguished in his specialty, became known nationally and internationally, and served for nearly a quarter of a century. Statistics were long regarded as the physics and physiology of society. Investors and speculators alike expended large sums to obtain figures from which to predict market fluctuations. Reliable crop information should therefore be exactly what the farmer needed. He could then foil speculators expertly.

But the theory failed to work as anticipated. This was in part because too few farmers fully understood the implications of the statistics, and in larger measure because individual farmers were in no position to do anything effective in the light of the statistics, even if they understood them and the figures were reliable--which they often were not.

In his last annual Message to Congress Lincoln said: "The Agricultural Department, under the supervision of its present energetic and faithful head, is rapidly commending itself to the great and vital interest it was created to advance. It is peculiarly the people's Department, in which they feel more directly concerned than in any other. I commend it to the continued attention and fostering care of Congress."

So Isaac Newton passed away, but the Department of Agriculture remained. And Newton's daughter capably served it for many years, until her retirement in 1930!

V -- Era of Genteel Futility

It is not wholly accurate, of course, to dub the entire period during which the Department was supervised by a Commissioner of Agriculture an era of genteel futility. But the resemblance is too deep to ascribe to coincidental similarity. Until President Grant's administration the offices opened at 10:00 a.m. and languidly closed at 3:30 p.m. Some of the Commissioners were political appointees, ill-fitted for their jobs, and they varied from extreme torpidity to eagerness about trifles.

Before the classified civil service came into being, the Department tended to be a refuge for place hunters. Demands for jobs were far in excess of available funds; many useless, incompetent hangers-on cumbered the pay rolls. Some incoming Commissioners tried to clean them out, but merely evoked sullen ill-will and Congressional growls. The personnel system was unsound. The scientists were often cantankerous and unduly hostile to delays, interruptions, the needs of the service, and the winning of public and Congressional favor.

Cooperation with the Land-Grant Colleges was far from effective, though there was fair understanding with farm organizations. With William Saunders among its founders, the Grange was a sort of Department stepchild. The Department underwent a number of investigations in its infancy. Threats to abolish it were made freely, but it managed somehow to vindicate itself. Agricultural journals, stimulated by aroused seed dealers, inveighed against the free seed distribution, and private publishers, as well as shocked and indignant farm journal editors, protested that the Department's publications diverted profitable trade from them.

From June 20, 1866 until December 4, 1867, Chief Clerk John F. Stokes was acting Commissioner of Agriculture, as provided by law. Then President Johnson selected from among the 30 ambitious aspirants a distinguished man named Horace Capron (1804-1885) who served as Commissioner from December 5, 1867 until July 31, 1871. He then resigned to become agricultural adviser to the Japanese Government. He took with him the Department's Irish-born third chemist, Thomas Antisell, and together they revolutionized farming in Hokkaido, possibly making it much more difficult for us to defeat Japan 70-odd years later.

Capron was born in Massachusetts, but grew up in New York and intended to go to West Point. However, his plans fell through and he drifted into the cotton-manufacturing business, erecting a model cotton mill in Laurel, Md., in 1836, of which he was superintendent. While there he acquired the Snowden estate by marriage, which rendered him independent. He engaged in scientific farming so successfully that he is said to have made $36,000 at it in one year. If he did that near Laurel, this writer's home town, he was unique. Possibly those were [illegible]-inflated prices!

After his wife's death in 1849, Capron left Laurel, assumed various occupations including that of successful cattle breeder, and finally did enter the Army which he left after the Civil War brevet brigadier general. When he returned from Japan, in 1875, he lived in Washington, D. C., until his death. As Commissioner he was sufficiently competent to maintain the confidence of both the public and the Administration.

The Department still largely concerned itself with the introduction of mew and better plant and animal varieties and with such improvements in cultural methods as would increase yields. Except for statistics, agricultural economics received little attention. Weather conditions were still reported, but scant efforts were made to enable farmers better to

adjust to rapidly advancing technology and the great changes then taking place in marketing methods. Actually an agricultural revolution was under way and the Department simply ignored it.

Stokes, reporting for the fiscal year 1867, announced Newton's lamented death and embraced the opportunity to say that Department employees were underpaid. He also thought that a suitable home should be provided for the Commissioner near the Department building, as his social position demanded. The contract for that new building had been delayed by Newton's protracted illness, but it was finally awarded, and the structure was now ready for roofing. The book's frontispiece significantly enough depicted steam plowing.

Commissioner Capron himself manifested much interest in such advances and reported that, whereas 3,000 steam plows were at work in England, there were only 2 in operation in the United States. The annual volume for this year contained a 10-page discussion entitled "History of American Inventions for Cultivation by Steam." It was written by a patent examiner and was well illustrated. Elsewhere 18 additional pages of the book were devoted to articles on steam plowing, in one of which it was stated that a single steam plow would replace 30 horses and cut production costs and labor requirements besides. But the Department was in no position to experiment in this field.

Commissioner Capron also remarked that the Department's seed establishment had grown "into a sort of fungus, of little value in itself, while it absorbed largely of the nutriment to sustain the vital functions of the department." This plaint came many times from heads of the Department before seed distribution was abolished nearly half a century later. The new Commissioner had entirely reorganized the Department, making drastic changes.

On January 13, 1868, there were fewer than 50 employees. These were: A statistician, an entomologist, a chemist and an assistant chemist, the superintendent of the experimental garden and his assistant, a botanist, the superintendent of the seed room and his assistant, the librarian, a disbursing and auditing officer, the chief clerk, 7 first-class, 6 second-class, 4 third-class, and 3 fourth-class clerks, 5 copyists and museum attendants, a chief messenger and two assistants, 2 workmen--probably skilled, and 6 laborers.

The chemists--Henri Erni and then Thomas Antisell had followed Wetherill--in the main concerned themselves with sugar beets and soils. But significant articles appeared in the book containing Capron's first report on the following subjects: Culture of oranges and citrons, fruits of Florida, China grass, water for destitute regions, farmers' clubs, and the urgent necessity for crop diversification.

Reporting for the fiscal year 1868, Commissioner Capron announced the completion of the Red Brick Building, as it later came to be called, and directed President Grant's and the Nation's attention to the facts that it was of Renaissance architecture, three stories high, and measured 170 by 61 feet. Its steam-heating apparatus was in good working order, and the final over-all cost had been $140,420.

This annual volume contained discussions of industrial and agricultural education, systematic agriculture, southern farming, Canadian reciprocity, the agricultural resources of Alaska, silk culture, practical entomology for farmers' sons, progress in fish culture, current facts and State reports on agriculture, and reviews of recent agricultural books. C. C. Parry had been appointed Department botanist on the express recommendation of Joseph Henry.

Reporting to President Grant for 1869 Commissioner Capron again protested the low remuneration of his staff and requested larger appropriations. He reported expenditures of $169,175.24 for that fiscal year. The following direct quotation about the Department's work and workers is revealing, and it set a trend from which few if any heads of the Department ever thereafter deviated.

> "Its work demands a higher order of talent than the routine service of most public business; it requires a knowledge of national economy, social science, natural history, applied chemistry, animal and vegetable physiology, and practical agriculture; and presents so broad a range of facts in each field of investigation as to demand the most active effort and the most persistent industry. For such labor the most meager compensation only is offered, and it is found difficult to obtain an increase of suitable service, and impossible to remunerate properly that already employed which is found to be most efficient and reliable, while that which is practically useless for the purpose is offered in unlimited measure. A just and wise revision of clerical salaries would greatly increase the efficiency of the Department."

It is obvious that the services of many incompetent political hacks had been offered to and refused by the Commissioner. He was convinced that the Department's functions could be carried on properly only by highly qualified professional employees.

Some of the work now being done paved the way to the ultimate establishment of a bureau of fisheries which finally ended up in the Fish and Wildlife Service, Department of the Interior. The Division of Botany was formally organized in 1868, and the existence of a Division of Entomology gained mention in Capron's final report. The experimental farm

on the Department grounds had had to be abandoned because it was much too small for the purpose. Cattle diseases were now arousing considerable interest, while chemist Antisell had been analyzing meat extracts and foods of the American Indians!

President Grant now appointed Frederick Watts (1801-89) to succeed General Capron. Watts assumed office August 1, 1871 and served until June 30, 1877. Born in Pennsylvania of Welsh extraction, he was a fussy old gentleman of 70 when appointed in deference to State patronage demands. Yet he had had considerable experience and a public record which appeared to justify his selection. He had grown up on an uncle's farm after his father's death, thus acquiring an early taste for and interest in agriculture.

He studied law and became president of the Cumberland Valley Railroad, yet always maintained an active interest in scientific farming and was instrumental in the introduction of the McCormick reaper. He experimented with farm buildings of various kinds and formed a number of farm societies. He was appointed Judge of the Ninth Judicial District, in 1849, serving until 1852. On retirement as Commissioner he returned to Carlisle, Pa.,until his death.

Objections to Watts' appointment were made because of his advanced age, while his pretentious observations on technical matters subjected him to ridicule. He became embroiled in controversy with prominent scientists, both inside and outside the Department, over the allocation of research funds, but he carried on until the end of Grant's term. He left to his chief clerk, James M. Swank, important powers over policies as well as appointments to and removals from office. His personal clerk was his own son who, because of chronic inebriety, shifted responsibilities to others. Yet Watts believed that the people's money should be spent judiciously and, on the rather rare occasions when he was personally present, he did much to effect picayune economy.

Watts found the following divisions in the Department: Chemistry, Horticulture, Entomology, Statistics, Seeds, and Botany. He was instrumental in establishing a Division of Microscopy, in 1871, and placed the distinguished Scottish-born Thomas Taylor in charge. Taylor's valuable work on very diverse subjects proved extremely useful to fruit growers and others. Early work in forestry and in veterinary medicine also began in Watts' term.

Watts asked the distinguished statistician J. R. Dodge to act as editor, complaining that it was very difficult to hire qualified persons to compile and edit agricultural reports on the low compensation of $1,200 to $1,800 then offered. Such salaries simply would not attract workers with broad agricultural experience and high literary attainments. Watts went on that it was a defect of public employment systems that exceptional capability was so rarely recognized, hence a dead level of mediocrity tended to prevail.

Commissioner Watts' reports were rather brief and routine in character. In 1872, the Department had an annual appropriation of $197,070, which proved sufficient to meet outstanding bills and permit the return of $1,272.82 to the Treasury. In recent years an agency would think twice before returning any unexpended money to the Treasury, as that would almost certainly result in a deep appropriation cut for the next fiscal year.

The report for 1873 mentioned the increasing importance of entomology and the monetary damage to crops caused by insects. In 1872, when Chief Clerk Swank wrote his brief account of the Department's history and development, he listed J. R. Dodge as statistician, William Saunders as superintendent of gardens, Townend Glover entomologist, Ryland T. Brown chemist, George Vasey botanist, J. R. Russell librarian, and Andrew Glass

was superintendent of the seed room. The Department at that time employed about 50 specialists and clerks and 50 messengers, laborers, and others.

Chemist William McMurtrie, on Watts' order, devoted his time exclusively to agricultural products. Private individuals and organizations had incensed the Commissioner by pestering his chemist to test wines, patent medicines, and mine ore samples for them, and to provide certificates of merit. Since there had been loud complaint about fraudulent fertilizers, the chemist was told to analyze some of them and publish the results.

In 1874,Commissioner Watts complained that delay in printing his annual report had crippled the Department's work, which may have set a higher value on it than it merited. But he still insisted, as did his successors, that the Department's employees were earnest, faithful, and industrious. In 1875, he handed in a terse, formal report in which he discussed the new work in forestry, and mentioned the 200 to 4,000 letters of inquiry which, he said, reached the Department daily.

In 1876,Commissioner Watts sang his swan song. He volubly congratulated himself on having handled the Department's accounts with accuracy and fidelity, and he and President Grant then made room for Commissioner Le Duc and President Hayes. During Watts' term of office the Department first began to test the viability of the seed it distributed gratuitously!

In the outside world during these days the Granger movement was gaining power and, in 1874, the Greenback movement was launched at an Indianapolis convention. Farmers were agitating for cheaper freight rates and lower-priced farm machinery. They were advocating the formation of more cooperatives and denouncing the exorbitant exactions of wicked agents and middlemen.

In October 1875, the Illinois Farmers Association held a convention in Springfield which was attended by many delegates from other States. Here production control was recommended to enable farmers to get the legitimate return from the fruits of their labor. Watts' aloof, pedestrian reports give little or no hint of all this.

Townend Glover's health failed during Watts' term and Charles Valentine Riley of Missouri was appointed entomologist. He was possibly the only full-time entomologist of his day. He had lectured at Cornell and he brought with him to the Department a brilliant Cornell student named John Henry Comstock. Later Comstock returned to Cornell and became famous, but he sent his equally brilliant pupil, L. O. Howard, down in his stead. Then a sudden political storm threw Riley out and Comstock again served the Department two years, until another storm put Riley back in office.

It is of interest that when Comstock went to Washington he had an annual budget of $5,000, allowing $2,000 salary for himself, $1,200 for Howard, and $750 for an assistant named Theodore Pergande, plus the hire of artist George Marx at $5 a day. For microscopic examination, specimens had to be taken to Taylor's Division of Microscopy. Comstock also spent $200 for the Department's first typewriter, a Remington. For comparison remember that Members of Congress did not emerge from the day-labor class until 1866; then they granted themselves regular annual salaries of $5,000 and also quit docking themselves when absent.

President Hayes appointed William G. Le Duc (1823-1917) Commissioner of Agriculture on July 1, 1877, and he served until June 30, 1881. He was a personal friend of the President and, at this very writing, his nephew, a son of a younger brother, is employed in the Bureau of Animal Industry.

Le Duc's father was French and he came to this country to help the Colonists in the Revolutionary War. He himself was born in Ohio, studied law, was admitted to the bar, and became active in and around St. Paul. There he not only helped develop farm land but engaged actively in civic affairs and assisted in laying out the western part of the city itself. Ultimately he sold his holdings and left.

He next served in the Union Army, rising from captain to lieutenant colonel. He was possessed of distinct inventive genius and aided in perfecting the Remington typewriter. No wonder the Department's first typewriter was of this make! He was blunt, forthright, energetic, virile, perjudiced, and not infrequently overenthusiastic, but he made an excellent Commissioner. Indeed efforts were made to retain his services in the succeeding Garfield administration.

Le Duc once got the idea that the veteran statistician Dodge was trying to undermine him; this led to Dodge's temporary service with the Census Bureau. On the other hand, when Le Duc once fired a clerk for chronic lethargy, he flatly told some senators who called in the displaced employee's behalf, that he simply would not reinstate the fellow, even though he depended upon Congress for increased appropriations to finance irrigation studies in which he was greatly interested.

Le Duc made elaborate plans for a new administration building, but nothing came of them. The old Red Brick structure was already bursting at the seams. Investigations of the diseases of domestic animals and of the possibilities of tea, sorghum, sugar beets and other economic plants were fostered by Le Duc. He unsuccessfully fought promiscuous seed distribution, but the organic act legalized these gratuities.

Le Duc's first annual report covered the fiscal year 1877. He

presented a table therein to prove that the Department of Agriculture received very much smaller appropriations than most other Federal agencies. For the fiscal year 1878, the War Department was to receive almost 2 million dollars, State over a million, Treasury nearly 13 millions, Interior about 3½ millions, Indian Affairs nearly 5 millions, the Navy about half a million, but the Department of Agriculture only $209,000.

Much space in this annual volume was devoted to the diseases of domestic animals. The States, having found that local measures proved insufficient, were now agitating for Federal control of the contagious and infectious animal ills. Livestock owners, spurred by the spread of contagious pleuropneumonia among cattle, urged Federal legislation. The book also contained material on the cultivation of oranges and the Chinese tea plant. It announced the appointment of Dr. Franklin B. Hough as Forest Commissioner, the embryo of today's Forest Service.

Le Duc's report for 1878 was long and comprehensive. He stated that the chemical laboratory was confined in two small rooms, a closet and a furnace room, in the cellar of the Red Brick Building. The Division of Chemistry urgently needed more space. Furthermore, because of deficient appropriations, the chemist had received only $1,900 of his $2,000 annual salary, and the assistant chemist only $1,400 of his rightful $1,600. Besides even their full salaries were too small.

As a favor to the health officer of the District of Columbia the chemists had analyzed some cream puffs and coffee suspected of being poisonous, as well as adulterated tea and bologna sausage. The way was already opening for food and drug investigations. Not only had the chemists analyzed some pharmaceutical preparations, but microscopist Taylor had found out how to detect adulterated butter by the use of a microscope.

Chemist Peter Collier and his assistant had also examined some tea and coffee substitutes, a tonic called Boneset, some baking powders, and some samples of butter and oleomargarine. They had worked cooperatively with the botanist on forage grasses and they were busily introducing new sorghum varieties.

A veterinarian contributed a long article on glanders, and the report contained much about the diseases of domestic animals. In 1878, Congress made a special appropriation for the study of hog and cattle diseases. Contagious pleuropneumonia raged increasingly so the very next year a Veterinary Division was established in the Department to carry on the investigations authorized by Congress.

Veterinarians contributed many long articles on animal diseases to Le Duc's report for 1879. But Congress had also authorized the expenditure of $10,000 on a study of the history and habits of insects. In 1880, it specifically authorized the Congressional seed distribution scheme which began in 1881.

Le Duc's final report covered the fiscal year 1880. The report to the Commissioner of chemist Collier, published as part of the annual book, itself covered 147 closely printed pages with 14 large color graphs folded in. Le Duc again stated that the Division of Chemistry was "confined to a room in the present building 20 feet square, with two basement rooms of the same size, and a small closet." Evidently some of the chemists had emerged from the furnace room, but things were still tough. How long Collier's report would have been had he had sufficient space we shall never know.

But the Commissioner declared that this "national laboratory of a great people" merited improved facilities. The chemist then had 11 assistants, mostly young graduates of chemical schools who came in for training. They had analyzed concentrated stock foods, veterinary remedies, and even a metal polish. The names, manufacturers, and full analysis of

the products involved were printed, it being slyly hinted that they were neither worth the price asked nor capable of meeting the maker's specifications.

Le Duc now said that the employees of his Department received lower pay than those doing similar work in other Departments. Whereas his distinguished chemist received only $2,000 a year, when he got it all, for his "laborious and valuable" services, a chemist who had worked for the Treasury Department a short while detecting fraudulent sugar had received four times that much, and earned it too.

In 1880, the Commissioner of Agriculture himself received only $3,500 a year; the chief clerk, the chemist, the statistician, the entomologist, and the superintendent of grounds received $2,000 each; while the botanist, the microscopist, the disbursing clerk, and the superintendent of seed distribution received only $1,800 each. According to Le Duc, his Department chemist was paid less than clerks in some other departments. A general increase in salaries commensurate with the value of the services rendered by his employees would be only just, concluded the Commissioner.

This last report contained many brief items of information on widely diverse topics. One of these foreshadowed the establishment and functions of the Food and Drug Administration. It was a blanket reply to the many who had inquired whether the Department could not assist in the control of adulterated foods. The Commissioner explained that it lacked legal warrant to do so. New methods of food processing, preservation, and transportation were constantly being introduced, affording increased opportunity for frauds, adulterations, and misbrandings. The public was not long satisfied with State regulation in this field, however, and a Federal law was insistently demanded and finally enacted.

President Garfield, unswayed by those who wanted Le Duc retained, appointed as Commissioner of Agriculture a scientific farmer who had been

educated as a physician, George B. Loring, M.D., (1817-91). Loring assumed office July 1, 1881 and served until April 3, 1885. Born in Massachusetts, he was educated at Harvard with James Russell Lowell as a classmate. He then took his medical degree at Harvard and entered practice. He later joined the staff of the Marine Hospital at Chelsea, Mass., and 7 years subsequently, was appointed commissioner to revise the Nation's entire marine hospital system.

He left this task in 1850, to devote himself to agriculture and politics. He developed Loring Manor, a model stock farm. He was a bland orator of the Victorian type, his addresses being somewhat overdecorated but always in support of popular causes. He served in the Massachusetts House of Representatives, as President of the State Senate, and as a Representative in Congress. His appointment by Garfield followed his defeat for reelection and thus placed a "lame duck."

Loring was a friend of Emerson, a prominent member of many agricultural societies, a patron of the Massachusetts Agricultural College, and he had written extensively on agriculture. President Harrison made him Minister to Portugal, 1889-90. He lived only a year thereafter.

Actually Loring took small personal interest in the Department of Agriculture and permitted a forceful clerk practically to run the establishment. He even sought to discontinue much of the experimental work initiated by his predecessor. But, though pompous as well as a lame duck, Loring was nevertheless a capable man. Furthermore he had had his eye on this very job for a decade.

Dr. D. E. Salmon, the distinguished veterinarian who built up the strong scientific staff of the early Bureau of Animal Industry, was already in the Department when Loring arrived. Contagious pleuropneumonia

occupied not only Dr. Salmon but also many pages of the book containing Loring's first annual report. Agitation for Federal intervention to prevent the spread of this plague was more insistent daily.

Besides that the spread of socalled southern, or Texas, or cattle-tick fever was threatening the entire livestock industry of the South. Dr. Salmon was perplexed because the affected animals did not always transmit the disease whereas healthy animals frequently did. He mentioned the recent discoveries of Pasteur in his report to the Commissioner, and said he thought that the Department should supply vaccines for the contagious diseases of cattle. Not long after, as detailed in the author's Two Blades of Grass, F. L. Kilborne, Cooper Curtice, and Theobald Smith of Dr. Salmon's staff solved the puzzle, demonstrated that the ticks transmitted the disease, and thus made the most outstanding medical discovery in the Department's history.

The investigation of sugar plants continued to engage the chemists. A study of butter adulteration was also being carried on "to aid the dairy interest in establishing a standard of good butter and to protect the consumers against fraud." Obviously dairying had entered the sphere of the Department's activities, while protection of consumers against fraud began to be regarded as one of its legitimate functions. By this time Dr. Harvey W. Wiley was Department chemist and head of its division of Chemistry.

In 1883, the Department consisted of the Division of Gardens and Grounds, the Botanical Division, the Microscopic Division, the Chemical Division, the Entomological Division, the Division of Statistics, the Veterinary Division, the Forestry Division, and the Seed Division. In 1884, the Department's first bureau appeared.

That was the Bureau of Animal Industry, created by Act of Congress approved May 29, 1884, and placed in the Department, a bureau within a bureau. Its first annual report mainly concerned contagious pleuropneuminia and cattle-tick fever. The former had spread ominously since the infection started from a ship's cow purchased by a New York milkman in 1843. Congress had appropriated $10,000 annually for study of this disease since 1879, but that proved insufficient.

State control proved ineffective. Nor had any civilized country ever eradicated the disease once it entered, and it was capable of destroying the Nation's entire livestock industry. Some States would declare themselves free from the disease when they were not. Others would deliberately ignore well-developed cases. The price of American steers dropped precipitously. Finally, on February 6, 1879, the British Privy Council had decreed that all cattle imported from the United States be slaughtered on the dock in a limited time and at a fixed price.

Annual losses mounted into the millions. Livestock men knew the disease was no myth, as some contended, and they demanded Federal action. But others held it to be quite improper for the Federal Government to give the livestock industry special aid. They urged Congress not to create another Government agency with its complement of Federal jobholders. The bill to establish the bureau, introduced by William H. Hatch of Missouri, was derided as the horse-doctor bill. But the Grange approved it in 1880.

In November 1883, Commissioner Loring called a convention of livestock growers which urged favorable action by Congress. So the bill passed, and its approval marked a notable extension of the general welfare clause of the Constitution. Yet the problem plainly transcended State powers of control. The Federal Government had to restrict individual

freedom for the public good. It had to heed the clamor for the bill. But the Bureau of Animal Industry was a great success.

Not only did it wipe out contagious pleuropneumonia in 5 years, at a total cost less than the annual loss in export cattle to Great Britain alone, which the disease caused, but it became and has remained a notable research and regulatory institution with many fine achievements to its credit. It performed a long line of outstanding research on a wide variety of the diseases to which poultry and domestic animals are heir. It overwhelmingly vindicated the wisdom of the Congress which established it, even in gross monetary terms.

Loring now rather grandly began to refer to his "bureaus" of statistics, botany, chemistry, entomology, and forestry, though they were still in reality small divisions and the Department itself little more than a Bureau. However, the Chief of the Bureau of Animal Industry, who must be a veterinarian, reported to the Commissioner.

Dr. Wiley continued his classic investigations of sugar beets and butter adulterations. Dr. Hough protested the ruthless destruction of our forests and, like many outside the Department, held that the Federal Government must take action to prevent this despoliation. Congress made a special appropriation of $15,000 for the study of silk culture, for belief in the feasibility of domestic silk production died hard,

This brings us to the last Commissioner who was also the first Secretary of Agriculture, Norman J. Colman (1827-1911) of Missouri, the highly capable appointee of President Cleveland, He was appointed purely because of his broad knowledge of agricultural problems, and he served from April 4, 1885 until February 12, 1889.

Born in New York State, Colman taught in Louisville, Ky., after graduation from a New York academy. He then took a degree in law at the University of Louisville and practiced in Indiana. During the Civil War he was lieutenant colonel of the Eighty-fifth Missouri Militia. In 1865, he founded Colman's Rural World, in St. Louis.

He was thereafter elected to the Missouri Legislature and his interest veered to politics and the State university. He belonged to numerous farm organization and agriculture engaged his lively attention. He was prominent among those who agitated for grants of Federal funds to such State agricultural experiment stations as were already in existence, and for financing them in States lacking them.

Colman had a better press and superior standing as compared with previous heads of the Department. He stood well above his predecessors in competence. He conducted the Department with skill, tact, and efficiency, and greatly increased the number of its female employees. Department activities expanded considerably while he was in office. Furthermore laws providing Federal aid for the State experiment station and giving the head of the Department a seat in the Cabinet were approved while he served. He was a propagandist for both.

Colman's first annual report manifested Dr. Wiley's continued interest in the analysis of foods and detection of their adulterants. The Commissioner wrote: "It is highly desirable that some general standard of purity for foods should be established and that uniform methods of examination for adulterations be agreed upon." This was a rather advanced position for those times. Wiley had backing now, but his findings were demonstrating the wide extent and insidious character of food adulterations.

A section of Economic Ornithology was organized in the Division of Entomology during 1885. This marked the small beginnings of what be-

came the Biological Survey, because of unceasing solicitation by the organized ornithblogists. The work now forms part of Fish and Wildlife Service in the Department of the Interior. Actually the depredations of birds and rodents had occupied some departmental attention for some time, but protection of beneficial species was also required. So Congress was persuaded by interested pressure groups to have this work undertaken.

Colman's report mentioned great increases in the quantity of counterfeit butter sold. Dr. Wiley also addressed himself to adulterated honey. The hope was expressed that Congress might soon establish a legal butterfat standard to rule out the surreptitious use of various animal and vegetable fats as adulterants. Finally, this volume for 1885, contained an article on truck farms and one on farming in India! The Department's interest in world agriculture did not begin post-World War II.

Reporting for the fiscal year 1886, Commissioner Colman remarked that American agriculture was becoming positively colossal. By this time 9 States had established agricultural experiment stations of their own, a bill had been drawn to provide them with matched funds or Federal grants-in-aid, and meetings and individuals were constantly demanding its passage.

One of Dr. Wiley's assistants reported on adulterated condiments and spices. Colman pointed out that many countries had official analysts who were regularly detailed to ferret out such abuses and correct them. A Mycological Section, a Division of Pomology, and a Division of Economic Ornithology and Mammalogy had been organized.

Reporting for fiscal year 1887, Commissioner Colman remarked that the Department, when first organized, had had but a handful of employees and only three divisions. Its organic act but faintly outlined its functions. Yet, despite prejudice, hostility, and banter, it had expanded and become

useful in service. That was true, more particularly after the Bureau of Animal Industry was created. But, said Colman, the salaries of the Department's scientists and professional aids were still insufficient.

Actually the Department had not been a howling success until Colman became its head. Many of its individual scientists were outstanding, and some extremely useful research was performed. A few signal advances had been made. But the clerks and minor employees were still too often incompetent political hacks put in office by the spoils system. The Department still had inadequate financial support--and this was odd, because the Federal Government was almost continuously prosperous from the 1870's until 1890, its average surplus running a hundred million dollars a year.

One main difficulty was lack of well-coordinated facilities within individual States to cope with diverse topographical and climatic conditions. Another was that the Department lacked really close ties with State agricultural institutions. The Land-Grant College Act helped by giving impetus to agricultural research in the States, as well as fostering agricultural education. By 1886, the field was well prepared for some national agency to coordinate the work of existing State experiment stations, and prominent agricultural experts lobbied unceasingly for the bill to provide Federal aid.

Largely through Commissioner Colman's personal interest, a meeting was held, in 1883, to consider the establishment of State experiment stations with Federal aid. A permanent organization was not effected at that time, but in 1887, at the third meeting of the group, this occurred and the Association of American Agricultural Colleges and Experiment Stations was born. The agricultural societies, especially the Grange, and other interested groups now incessantly clamored for Congressional action.

So on March 2, 1887, the Hatch Act was approved. It provided for the establishment of the first national system of agricultural experiment stations in the world. The Office of Experiment Stations was organized in the Department to coordinate their efforts; it had bureau status. At last also the Federal Department of Agriculture had a close tie with State agricultural agencies.

This authorization of Federal-State work naturally required some departmental reorganization. Dr. W. O. Atwater, a pioneer advocate of experiment station legislation, and also the father of American nutrition science, became Chief of the Office of Experiment Stations with Dr. A. C. True as his assistant. There were now two units with bureau status in a Department which itself had only bureau status.

The new Office of Experiment Stations was intended to act in an advisory capacity, to furnish forms for the tabulation of research results, to suggest fruitful lines of inquiry, to prevent duplication of effort, and to provide such advice and assistance as the stations required. But soon some irregularities in the use of funds compelled it also to audit closely.

By this time the Bureau of Animal Industry had all but stamped out contagious pleuropneumonia. Food adulterations further alarmed Colman, and the results of Wiley's investigations began to appear in what became a veritable flood of sensational bulletins. The fraud was largely financial, but for that very reason Colman held it to have basic agricultural importance. B. T. Galloway had now become Chief of the Section of Vegetable Pathology, where he gathered about him a group of brilliant workers.

Farmers were demanding better transportation facilities as an aid to marketing. Improved road construction began to assume an important place in Department thinking. But, for old times sake, the book for this year closed with an article on ostrich farming in America!

According to the Census of 1890 there could hardly be said to be a frontier line any more. That year is usually selected as marking the end of the era when good land was generally open free for agricultural settlement. This factor induced farmers more and more to seek new types of information and service from the Department. The Farmers' Alliance and, later, the Populists, wanted the Government to grade and store farm commodities in public warehouses, and to make loans to farmers on the produce so deposited. The idea bore fruit 40 years later in the operations of the Commodity Credit Corporation and the Ever-Normal Granary.

Agriculture steadily continued to become more mechanized and more commercialized. Hard money, high freight rates, trusts and monopolies were dominant national issues. The Interstate Commerce Act itself had been passed mainly in response to agrarian pressure for lower freight rates. Farmers protested that the carriers and middlemen absorbed far too great a proportion of their dollar. By 1890, the problem of overproduction was already a serious farm issue. Newton's original objective of making two blades of grass grow where one grew before had been too unwisely achieved.

Yet the Department's sole remedy for farm ills was to perfect scientific methods which further increased production or else decreased unit costs. So farmers intensified their efforts to make their land yield just as much as possible, yet they did not always prosper. Scientifically approved cultural practices, the prevention of damage by diseases and insects, the selection of the best plant varieties and animal breeds--all were important, but insufficient. When the frontier closed it became difficult indeed to move on to richer land and gain new hope when the soil on the old farm was exhausted.

However, the Department could do nothing further without additional authorization from Congress. Congress alone could legislate on the basic problems confronting agriculture. The prices of farm produce dropped. In 1889, Kansas farmers were burning their corn for fuel and a Nebraskan made the headlines by shooting his hogs when he couldn't even give them away. Industrial prices rose. Urban workers were undernourished and farmers produced more food than they could market because effective demand was limited. The problem now was to aid distribution. The Farmers' Alliance and the Populists became increasingly influential.

Congress sincerely sympathized with the lot of the farmer, but it did not move to broaden the scope of the departmental functions. Farmers understood that the increased protection from nature's destructive forces provided by the Department's scientists could not solve their problem. They wanted protection in the market place as well. During the 1880's petitions literally flooded in advocating improvement in the Department's status and Cabinet rank for its head. Colman himself strongly backed these movements. Congress was at last impressed.

While many of its Commissioners had been men of ability, well-recognized attainment, and good training, discontent was rife with the Department's accomplishments. So far it had won scant praise. The press, even the farm press, tended to be silent about it, except for noting routine changes in its organization, operation, or personnel, and occasionally voicing opposition to free seed distribution.

The Department also had tended to serve special agricultural groups and interests--now the livestock crowd, now the beet people, and so on. It had not really sought to understand the farmer's acute economic problems or to serve the agricultural industry in general.

In 1890, for the first time, the Nation's income from manufacturing was greater than that from agriculture. Wheat, pork, and corn flowed from the West, however, to feed Europe as well as this country. But farmers did not reap the rewards that should have been theirs. Their fixed charges increased; they could combine neither to fix prices nor to control output.

But 1890 also, 28 percent of all our farms operated by owners were under mortgage. Land values shot up, but so did farm tenancy, As early as 1880,one-fourth of the farmers were tenants. Meanwhile the robber barons, or captains of industry, secured economic dominance and political power for themselves.

The Department during these troubled times had placed strong emphasis on novel or exotic plants and animals, each one of them destined, it hoped, to deliver big dividends. But it had given far too little thought to economic barriers and the improvement of the crops already grown here. Yet, by 1889, its annual appropriation had grown to $1,350,000, plus $630,000 additional for the experiment stations.

But farmers could not well apply all the knowledge they received in the form in which it reached them. There was a gap the Cooperative Extension Service would fill later. But real progress could not be made until Congress gave the Department more scope for educational, economic, and social as well as natural science investigations.

Such progress as the Department had made occurred because of the necessity for regulatory work on milk, renovated butter, meat, and foods; because of the more commercialized character of farming ; and because of the gains in farm technology.

One turning point was the establishment of the Bureau of Animal Industry which almost immediately gave a distinguished demonstration of what

scientific research, performed in the modern manner, could accomplish if allowed. Passage of the Hatch experiment station act improved the situation by providing an interlocking relationship between the Department, the State Colleges, and the State experiment stations. This relationship became even closer when the Cooperative Extension Act was approved in 1914. Yet nearly all of the future complex functions of the Department of Agriculture had appeared in embryo by the time Colman left office.

But we now turn to find "Mr. Secretary" in the Commissioner's chair.

VI--Improved Organization and Slow Growth

The Department now entered upon a period of slow growth during which its organization was adjusted to the new status of its supervising officer who sat in the Cabinet. This period ended when "Tama" Jim Wilson took office, and an era of rapid expansion supervened, during which research in the natural sciences increased by leaps and bounds, while the Department's scientific staff grew with great increments. Meanwhile many distinguished scientists worked closely herded together in inadequate quarters provided by the old Red Brick Building. There the Commissioners as well as the earlier Secretaries, could easily become personally familiar with the entire staff.

While the Department and its appropriation had been growing in the past, few were satisfied with its curious bureau status. Public agitation, enhanced by the Granger and the Populist movements, got that seat in the Cabinet for the Department's head. So it seemed that a better era for farming should dawn when its Department had assumed a plane of equality with the other executive establishments.

True, some members of Congress and some influential citizens registered objection. They considered it a dangerous precedent to give a place in the President's Cabinet for representation of any special interest. They called the act which promoted the Commissioner class legislation. Indeed that argument against giving the Department's head Cabinet rank was repeatedly brought forward between 1881 and 1889. Despite that, Congress finally took action.

The Fiftieth Congress (December 5, 1887-March 3, 1889) had been liberally deluged with petitions and memorials that the Commissioner be given Cabinet rank. Such clamor, which had now gone on for more than 30 years, at last became too assertive or annoying to be ignored. In the past, bills had been introduced and even passed by the House to accomplish this purpose, but the question of including industry in the Department usually arose, and they were dropped.

Finally the Hatch bill--the sponsor was the same as for the law founding the Bureau of Animal Industry and the one providing Federal funds for State experiment stations--was approved February 8, 1889. In the last days of President Cleveland's first administration Commissioner Colman was nominated and, on February 13, confirmed as the first Secretary of Agriculture, a position he held only a few days. Again ceaseless and insistent propaganda by interested groups had accomplished its purpose.

President Harrison appointed as Secretary of Agriculture, Jeremiah M. Rusk (1830-93), who assumed office March 7, 1889 and served until the beginning of Cleveland's second term, March 6, 1893. A native of Ohio, of meager education, Rusk had moved to Wisconsin and set himself up as a tavern keeper, in 1853. He was very successful and soon owned a stage line and considerable farm land. He always was a good businessman.

During the Civil War Rusk was in the Twenty-Fifth Wisconsin Infantry, rising to lieutenant colonel and retiring brevet brigadier general. The Department had its share of military heads in the old days! Rusk was next elected to Congress and thereafter served as Governor of Wisconsin, proving to be an extremely good one. In 1888, he was seriously mentioned for President. A large man physically--he stood 6 feet 3--he was well and broadly informed, logical, active, and straightforward. President Harrison

said that, as Secretary of Agriculture, "he not only filled the measure of the man I wanted but enlarged it." He died 8 months after he retired.

Rusk's administration was marked by the final eradication of contagious pleuropneumonia of cattle, passage of the first meat inspection legislation, his own recognition that sound publicity methods were paramount, and his marked ability to interest the press in Department activities. Rusk felt that Department publications had long been too technical and too few in number. He acceded to to Dr. Atwater's suggestion that Farmers' Bulletins be issued, written in popular language. He also had the first press releases prepared and distributed.

Rusk was not too favorably disposed towards many employees Colman placed in office and, wherever there were openings, he filled them insofar as possible with his old G.A.R. buddies of Civil War days. Many of them were senilely inefficient, yet the veterans literally took over the Department. Nevertheless the new Secretary was a capable and devoted Department head.

He succeeded in securing increased appropriations and he placed the work on a much broader foundation than it had hitherto occupied. He so reorganized the Department as to place all scientific work under an Assistant Secretary for whom Congress had made provision. He began a systematic investigation of foreign markets for our farm products. To stimulate farm exports he stationed workers in Great Britain to inspect cattle reaching there from the United States. He improved cattle-tick fever control.

In establishing a Division of Records and Editing, Secretary Rusk made it plain that the Department would effectually disseminate as well as create and accumulate information. Over and over again he insisted that frequent publication of the results of scientific work in clear language

was imperative. He wanted the information so expressed that practical farmers and newspaper readers could readily understand.

In his first annual report, dated October 26, 1889, Rusk commented on the intolerably crowded condition of the Department building. Nor did he forget those submerged chemists who, with their explosions and aromatic fumes, operated in the basement almost underneath his desk. In fact, they had been known to produce vapors so noxious as to compel the head of the Department to throw up his office windows, or to take his visitors clear outside the building to get some fresh air. Moreover, as Rusk wrote, there were "dangers to human life and limb from the explosions of gases and other causes."

All too true for, on one occasion, a head of the Department had been blown clear out of his chair by such a concussion. In the end Secretary Rusk arranged for the chemists to occupy a dwelling at what is now the corner of Independence Ave. and 14th St., S.W., where the northwest corner of the Department's South Building is located. It was suitably equipped and thus the chemists were housed at least a block from the Secretary's office in the Red Brick Building, which stradled 13th St. If they imprudently blew themselves up there he at least would not risk dismemberment.

Returning to his favorite subject of prompt popular publication, he wrote in his report that "Time and expense, ability and experience, lavished on the work of this Department can have no practical results unless we can lay their conclusions promptly before the people who need them." He did not believe that work reports should lie around months awaiting the book in which his annual reports appeared. That book was already too crowded. Scientific and popular publications should be issued frequently, the latter in language any layman could understand. Since he felt that more effective distribution methods must be devised, he ordered advance sheets prepared for the press.

Rusk was also somewhat disturbed that vastly larger sums were expended on agriculture by the Governments of Great Britain, Germany, France, Russia, and even Brazil, than by our own. He thought it was about time we began to catch up with these nations.

In 1889, the Department consisted of the: Division of Statistics; Division of Entomology; Division of Chemistry; Section of Silk Culture; Botanical Division; Section of Vegetable Pathology; Division of Economic Ornithology and Mammalogy; Division of Microscopy; Office of Experiment Stations; Forestry Division; Division of Gardens, Grounds, and Horticulture; Seed Division; Division of Pomology; Folding Room; Library; Museum; Bureau of Animal Industry. Some units could have been consolidated, for too many heads of units reported personally to the Secretary, but that waited a while.

A manifestation of the Department's enhanced prestige and importance was the letters of inquiry it received. Between January 1 and October 1, 1889, these incoming letters totaled 39,906. Secretary Rusk said that they came "from all sections of the country, from all classes and conditions." They certainly justified his eagerness to improve the dissemination of information.

As he observed, about 30 million people of the Nation then depended directly on the farm. The Secretary was convinced that agriculture underlay trade, commerce, wealth, and that the Nation's prosperity depended on the farmers. Properly directed, science would enable them to increase production per acre by another 50 percent. "The great nations of Europe strain every effort to make science the handmaid of war; let it be the glory of the great American people to make science the handmaid of agriculture." That was Rusk's sentiment.

The head of each individual unit mentioned above had a report of his own in the bound volume in which Rusk also reported for the fiscal year 1890. Again he stressed the importance of editing and publishing; George William Hill had been appointed to supervise this work.

The Second Land-Grant College Act, also sponsored by Senator Morrill who sponsored the first in 1862, was approved August 30, 1890. It provided additional cash endowments and authorized the establishment of colleges for Negroes in the States or Territories where a distinction was made in the admission of students, on a basis or race or color. Today there are 17 Negro Land-Grant Colleges, but still no accompanying Negro experiment stations. These colleges have their own association, carefully segregated from the white one.

The Weather Bureau became the third Department unit with this status when an Act of Congress, approved October 1, 1890, transferrdd the meteorological work then carried on by the Army Signal Corps to the Department of Agriculture. The general public and also many of the Bureau's staff felt that civilian control would render the agency more useful to agriculture, commerce, shipping, and industry. The transfer was appropriate, since the Department had long carried on meteorological work.

In his annual report for fiscal year 1891, Secretary Rusk launched into a broad discussion of agriculture, a general-policy approach used by many of his successors. At this time special agents of the Department were investigating fibers, artesian wells, and irrigation problems. The inspection of animal food products had started under an act approved March 3, 1891. Rusk wrote that "a system of inspection for all articles of food is extremely desirable." He cited milk as a specific example. Dr. Wiley was now engaged in studies of meat preservatives, adulterants of butter, tea, coffee, and cocoa, and the composition of Florida muck land.

Disposal of surplus crops and the gouging of farmers by middlemen still offered problems. Crop diversification, cooperatives, and the relation of farmers to the Department were discussed by Secretary Rusk.

Writing a little less broadly on policy in the report for 1892, Secretary Rusk advocated reduction of cotton acreage, lamented the low salaries of Department employees, and then viewed his term of office in retrospect. He commented on the Department's organization problems of the future, for he had found that entirely too many heads of separate units had to consult the Secretary in person. Consolidation was in order and Rusk suggested the adoption of a bureau system, with various lines of work appropriately grouped together under fewer responsible heads. This process actually began in 1901, and the Department's history henceforth became a succession of proliferations and consolidations.

Cleveland, on his return to the Presidency, appointed J. Sterling Morton (1832-1902) as Secretary of Agriculture. Morton served from March 7, 1893 until March 5, 1897. When he assumed office he appeared to think that about the best thing to do would be gradually to shrink the Department until it vanished entirely, thus saving money. Actually nothing of the sort happened in his administration. Despite his fervent disapproval, the customary expansion took place. Actually Morton intensely disliked and mistrusted our growing Federal bureaucracy.

Morton always was a person of strong, individualistic views. He had been expelled from the University of Michigan as a youth for his independent thinking. He left as a senior, but many years later the university gave him his earned degree and conferred an honorary one on him besides.

A native of New York State, Morton took his A.B. at Union

College, New York, sans residence. He first went to Monroe, Mich., then to Detroit to settle, and there rapidly became popular and well-known. Next he married, migrated to Nebraska, and became the editor of the Nebraska City News. It was then that he entered politics. Meanwhile he owned, lived on, and worked a Nebraska quarter-section.

President Buchanan made Morton Secretary of Nebraska Territory, in 1858, and his appointment as Secretary of Agriculture culminated his career. He had a passion for tree planting and was the father of Arbor Day. He entered the Department of Agriculture violently prejudiced against Government service, which he regarded as wasteful. The young messenger who was delegated to show him around, boasted of a recent raise he had had, in order to make conversation. Secretary Morton promptly demoted him.

He at once started to clear out Rusk's old comrades in arms. He also released all the women employees he could and demoted the remainder. However, four of them proved so competent and nearly indispensable that he was compelled to retain them at $1,200 a year each, his top ceiling for woman workers! He flatly refused to recommend appropriations for free seed distribution, but Congress inserted the item in the annual appropriation act and then compelled him to obey.

Like his predecessor, Secretary Morton also insisted that farmers get easily comprehensible information from the Department. He regarded this as far more important than the promiscuous distribution of dubious seed to many nonfarmers. He did manage to save 2 million dollars during his administration, and recommended that it be used to provide the Department with a new building, but Congress demurred.

The Department Seal, authorized by an act of Congress approved August 8, 1894, was adopted by order of Secretary Morton, June 21, 1895. It bears a shock of corn, a left-handed plow, and the inscription "1862,

Agriculture is the Foundation of Manufacture and Commerce, 1889," and 44 stars representing the States of the Union. The left-handed plow aroused much comment, some construing it as mere artistic prerogative. However, left-handed plows were long used by the leading farmers in a number of States, and the symbolism was sound. Strict rules govern the use of the Seal. Originally used only on certain official papers, it came later to appear on many publications and in the wrong size, a direct violation.

The Department's flag bears a reproduction of the Seal on a blue background, and four stars indicative of what was then the highest military, naval or civilian rank, symbolizing the President as Commander-in-Chief. However, the Secretary of Agriculture was not then covered by the succession act, and could not have assumed the Presidency, even had a Cabinet holocaust occurred. The act approved in President Truman's administration did, however, put the Secretary of Agriculture in line of succession, a possible tribute to the atomic age.

Secretary Morton established what he called a Division of Publications. He reorganized the Division of Statistics and created the Division of Agrostology to study forage plants. He abolished the Division of Miscroscopy as obsolete, because any number of specialists now used a microscope in their work, and scattered its functions elsewhere. The Division of Soils began work in the Weather Bureau during his term, and he also created an Office of Road Inquiry, and organized a Dairy Division in the Bureau of Animal Industry. So much for the man who wanted to abolish Government bureaucracy.

Reporting for fiscal year 1893, Secretary Morton advocated still better Department organization. He pronounced the classified civil service defective because there was too much injustice in rank and pay. He insisted

that the Department must have a better building, and he discussed the agricultural agencies of foreign governments to lend point to his contentions. Editor Hill chimed in to advocate a systematic reclassification of Department publications, and to cite the evils attendant upon their unrestricted free distribution.

In his report for 1894,Secretary Morton's principal subject was the necessity for improving foreign markets for agricultural products. There had been a panic in 1893 and, when the Wilson-Gorman Tariff of 1894 was passed, President Cleveland denounced its but slightly lowered rates as an example of "party perfidy and dishonor." The average annual value of our farm exports was then about $752,120,000, and they constituted an average of 66.4 percent of our total exports between 1895 and 1900.

Milton Whitney was in charge of soil studies. Congress had made a special appropriation of $10,000 to be used for the study of human nutrition, and Dr. Atwater was undertaking this task, for which he was so well qualified, in the Office of Experiment Stations. Dr. Wiley was hard in pursuit of food, drug, and distilled-liquor adulterations. The Office of Road Inquiry also had a special Congressional grant of $10,000, indicating that groups agitating for better roads had convinced Congress of their needs. L. O. Howard was in charge of entomology.

Secretary Morton complained that the act creating his Department had provided it with no home. The structure erected in 1867 to accommodate about 50 people in 4 divisions was now far too small. Moreover the sum of $10,000 had been expended to erect a museum--"A better building to burn could not be invented or constructed, and yet it contains a Museum which, on the market, is worth at least one hundred thousand dollars"--wrote the irate Secretary.

Said he, the Federal Government was now paying $700,000 a year to the State agricultural experiment stations, yet it supervised this huge and costly project from an office which cost only $25,000. Records of research that cost 5 million dollars were stored in a combustible building, and, according to the well-ignited Secretary, other wooden firetraps housed valuable investigations in the field of forestry.

The scientific work of the Department had spread out into rented offices. The Weather Bureau was so remote--it was out in Georgetown, as at present--that the Secretary could scarcely hope to supervise it at all. Finally, held Morton, while airing his dissatisfactions, Department of Agriculture employees should be appointed only after passing rigidly competitive examinations held by the civil service.

The first Yearbook of the Department of Agriculture appeared in 1895, but was dated 1894. Hitherto the annual report of the Secretary had contained a great deal of material designed for the information of ordinary citizens. Under the act approved January 12, 1895, this was separated from the purely administrative, executive, and business matter of the annual report, and was issued separately as a Yearbook of Agriculture.

The Yearbook of 1894 did contain the Secretary's annual report, however, but it was in the main composed of a series of papers by the chiefs of the Department's various branches as well as by some outsiders. Half a million copies of this book were printed at a cost of $300,000, which undoubtedly anguished Morton. Charles W. Dabney Jr. , was then Assistant Secretary and, as such, in charge of the Department's research and scientific work.

Secretary Morton's annual report for fiscal year 1895 described the organization of the Dairy Division and its initial operations under

its first chief, Henry E. Alvord. The foreign market for meat was analyzed, Dr. Atwater was said to be well launched in his nutrition studies, and unscrupulous manufacturers were making perverted use of departmental analyses of their products in advertising them. Morton cautioned them that while the Department did analyze, it did not recommend their goods. An act of Congress had given the Division of Agrostology permanent status.

Civil Service status had been extended to the Department's 2,019 employees by a Presidential Order dated May 24, 1895. This included all of them except the Presidential appointees and a few common laborers. The Department had 429 women employees at this time, Morton's prejudice to the contrary notwithstanding. The agencies comprising the Department and their heads were as follows:

Weather Bureau, Mark Harrington; Bureau of Animal Industry, Dr. D. E. Salmon; Division of Statistics, Henry A. Robinson; Office of Experiment Stations, A. C. True; Division of Chemistry, Dr. Harvey W. Wiley; Division of Entomology, Dr. L. O. Howard; Division of Ornithology and Mammalogy, C. Hart Merriam; Division of Forestry, B. E. Fernow; Division of Botany, Frederick V. Coville; Division of Vegetable Physiology and Pathology, B. T. Galloway; Division of Agrostology, F. Lamson-Scribner; Division of Pomology, Samuel B. Heiges; Division of Agricultural Soils, Milton Whitney; Office of Fiber Investigations, Charles R. Dodge; Office of Irrigation Inquiry, Charles W. Irish; Office of Road Inquiry, Gen. Roy Stone; Gardens and Grounds, William Saunders; Division of Publications, George William Hill; Division of Accounts and Disbursing Office, Frank L. Evans; Seed Division, M. E. Fagan; Document and Folding Room, Will H. Bane; Museum, James M. Watt; Engineer, John A. Harvey; Chief Clerk, D. MacCuaig; Librarian, W. P. Cutter.

its first chief, Henry E. Alvord. The [illegible] [illegible] was the scientist, Dr. Atwater was said to be well launched in his nutrition studies, and [illegible] [illegible] [illegible] [illegible] of experimental analysis, [illegible] their products in advertising [illegible]. [illegible] [illegible] [illegible] the Department did [illegible], [illegible] [illegible] [illegible] [illegible]. [illegible] of Congress had [illegible] the Division of Agricultural [illegible] [illegible].

Civil Service status had been extended to the Department's [illegible] employees by a Presidential Order dated May [illegible], [illegible]. This included all of them except the [illegible] [illegible] [illegible] and the [illegible] [illegible] laborers. The Department had [illegible] employees at this time, including [illegible] [illegible] in the [illegible] [illegible]. The Bureaus comprising the Department and their heads were as follows:

Weather Bureau, Willis Moore; Bureau of Animal Industry, D. E. Salmon; Division of Statistics, Henry A. Robinson; Office of Experiment Stations, A. C. True; Division of Chemistry, Dr. Harvey W. Wiley; Division of Entomology, Dr. L. O. Howard; Division of Ornithology and Mammalogy, C. Hart Merriam; Division of Forestry, B. E. Fernow; Division of Botany, Frederick V. Coville; Division of Vegetable Physiology and Pathology, B. T. Galloway; Division of Agrostology, F. Lamson-Scribner; Division of Pomology, Samuel B. Heiges; Division of Agricultural Soils, Milton Whitney; Office of Fiber Investigations, Charles R. Dodge; Office of Irrigation Inquiry, Charles W. Irish; Office of Road Inquiry, Gen. Roy Stone; Gardens and Grounds, William Saunders; Division of Publications, George William Hill; Division of Accounts and Disbursements, Frank L. Evans; Seed Division, [illegible]; [illegible] and Folding Room, [illegible]; [illegible], [illegible]; Librarian, W. P. Cutter.

Secretary Morton's final report covered the fiscal year 1896, during which the Department's annual appropriation was $2,583,750. There were now 2,497 employees, practicallyall in the classified civil service. Morton, who demoted his young messenger pilot on the first day and who intended to abolish bureaucracy, presided over a Department considerably expanded since he took office. But he had operated the Department with economy, turning money back into the Treasury.

Only the Secretary, the Assistant Secretary, the Chief of the Weather Bureau--all Presidential appointees, and the Secretary's private secretary were now outside the classified service. But Morton thought it would be better for the Department to have a permanent Director of Scientific Work, to attain more continuity in policy than could be had under constantly changing assistant secretaries. Much later such a director was appointed, though today the head of the Agricultural Research Administration has this responsibility.

Throughout his term Morton remained exceedingly hostile to the free seed distribution and advocated its abolition. He reported that seed valued at 2 million dollars retail had been sent out in competition with those sold by commercial seedsmen, many of whom bitterly protested. Later the seedsmen were mollified by permitting them to take over the Department's distribution themselves! When he had failed to halt seed distribution by injunction Morton commented with sarcastic astringency:

" . . . .And thus the great privilege of gratuitously furnishing garden and flower seeds to a small percent of the people out of money raised from the revenues of all the people was conserved to Members of Congress and officers of the Department of Agriculture. It is estimated that the distribution for this year will be sufficient to plant about 250 square miles of ground, and will therefore employ in the distribution about

60 mail cars. The Secretary of Agriculture sincerely regrets this unnecessary and wasteful expenditure of public moneys, and hopes that Congress may in good time put a stop thereto."

Congress did--in the 1924 appropriation act.

The Secretary meticulously recorded the average age of his chiefs of scientific bureaus as 42 years and 3 months, the oldest being 51 and the youngest 29. He remarked that their salaries of $2,500 were as insufficient as those paid their first assistants, $1,800. For even the directors of the State agricultural experiment stations received more than that. Naturally turnover was high, and would be, so long as the scientific staff was underpaid.

Secretary Morton had a great deal to say about the export market for fruits and vegetables. He set up a Section of Foreign Markets, March 20, 1894. He also realized that farmers required much more economic information than they were now getting from the Department. Production methods had greatly improved and agricultural resources had so extended that disposal of farm surpluses was proving more difficult every year. This problem got far worse before improvement set in, and it usually took war to effect that. Old Isaac Newton's two blades of grass were on a rampage.

According to the Secretary the general state of the farmer was good. Seventy-two out of 100 farmers held their farms free of encumberance, hence they were not Government wards receiving annuities like the Indians! They were heroic copartners with the elements! But expansion of the foreign market was urgent. Millions depended on it. Drat those surpluses.

Other minor points were discussed briskly in the report. During the fiscal year 1896 there had been issued 6,561,700 copies of Department publications which it cost $42,340 to edit and $130,400 to print. Establishment of a Division of Accounts and Disbursements had been helpful fiscally. And Dr. Wiley wanted more chemists, increased pay for them, and a better building. Eventually that new building was erected on the site of the dwelling house to which Rusk had exiled the chemists.

Great changes impended. At this point J. Sterling Morton left office and, on the advice of "Uncle" Henry Wallace, grandfather of Henry A., President McKinley appointed to office "Tama" Jim Wilson of Iowa. He had a difficult time pleasing controversial factions, but his appointment of Wilson stood up longer than any other Cabinet appointment in history. For "Tama" Jim served 16 years, longer even than Mellon the Great or fulminating Harold Ickes.

Wilson was notable for making the Department of Agriculture one of the outstanding research and scientific institutions of the world. But, before considering his term of office, we should very briefly review what had been done up until now. As the subject has been covered at great length in the writer's Two Blades of Grass, the review here will be cursory.

Naturally the Department's earliest scientific work was haphazard and sketchy. But it is always of interest to remember that it was initiated by Congress, when that body requested Rush to look into the possibilities of domestic silk culture. Actually the work started with a House Resolution passed May 11, 1826, directing Richard Rush, then Secretary of the Treasury, to have the investigation made and published.

Silk culture, the ravages of the hessian fly, potato diseases, and the grimly determined effort to make table sugar from cornstalks all

occupied much time of the early investigators. But truly modern scientific teamwork in the solution of a problem did not occur until in the 1880's when Theobald Smith, Cooper Curtice, and F. L. Kilborne discovered that cattle ticks transmitted socalled Texas fever from one steer to another.

Gradually Dr. Salmon developed a remarkable group of animal scientists in his bureau, and Dr. Galloway quite as remarkable a group of plant scientists in his unit. On the theory that any scientists might then be using a microscope, Secretary Morton abolished the Division of Microscopy, July 1, 1885. Its work on fungi went to the Division of Vegetable Pathology; that on food adulterations to the Division of Chemistry; and that on fibers to the Office of Fiber Investigations.

As if to balance the work of Theobald Smith on animal diseases, Erwin F. Smith, who joined the Department's staff in 1886, and M. B. Waite, who joined in 1888, were the first to prove that bacteria could cause plant diseases, and to discover that insects could spread bacterial and fungicidal diseases among plants, respectively. The nutrition investigations of Dr. W. O. Atwater and associates attained worldwide fame; they were both pioneering and revolutionary. Irrigation studies were undertaken by the Department in 1881, at the direct request of Congress.

Dr. Wiley's early studies concerned the best locations for growing sugar beets in this country and were classic; they still stand. His work on food and drug adulterations attained national and international fame; they fructified in a long series of outstanding publications and the passage of the Food and Drugs Act of 1906. Wiley's flood of publications began to appear in 1885; his work on food and its adulterants was issued in 10 parts, 1887-1902. The methods of analysis developed by Wiley and his associates were generally used and taught to chemistry students.

The Division of Forestry, organized in 1881, attained statutory rank in 1886. Between then and 1898 it had undertaken investigations on the needs of railroads for forest products, designs for mensuration, foreign tree and plant introduction, tree-planting methods, forest influences, and forest conditions in various regions. Gifford Pinchot came to head this work in 1898, and gave it accelerated impetus. He remained until fired by President Taft incident to his controversy with Secretary Ballinger of Interior.

Bulletin No. 4, issued by the Weather Bureau in 1891, concerned soils and Milton Whitney of Maryland Agricultural College was its author. In 1894, he became head of the Department's Division of Soils. The Division of Chemistry had, it is true, undertaken soil studies much earlier, but from a different angle. Even before that, of course, nearly all early Department chemists had analyzed some soils.

Whitney's studies followed the line of soil classification, the physical properties of soils, soil moisture content as related to crop production, and demonstrated finally that a soil science was possible. This was a new departure ably followed up by Whitney's associates and successors.

Studies in entomology began in Patent Office Days, as did chemical investigations. Townend Glover became entomologist when an independent unit was established in 1862. Again research of fundamental importance and great monetary value to plant and animal growers everywhere was performed.

It was Dr. Salmon of the Bureau of Animal Industry who realized that the claims of the dairy industry for some service by Government could no longer legitimately be ignored. But he felt that an annual appropriation of $2,500 and two clerks could supply the need. So the division to collect and disseminate information on the Nation's dairy industry appeared July 1, 1895.

Work on public roads was instituted under legislation approved March 3, 1893. The enactment was made in response to growing public sentiment and Congress appropriated $10,000. Gen. Roy Stone, a civil and mechanical engineer, was appointed Special Agent for Road Inquiry on October 3, 1893. The National Road Parliament of 1898 increased interest in this work, which farmers and bicycle riders promoted jointly, strange as it seems.

As early as 1885, the American Ornithologist's Union had memorialized Congress for the establishment of a Division of Economic Ornithology in the Department. Eventually Congress appropriated $5,000 for the purpose--it took a bit of urging--and work began in the Division of Entomology, July 1, 1895. The organization grew steadily, under outside pressure; it became an independent Division of Ornithology and Mammalogy within a year and, a year later, was designated the Division of Biological Survey. Dr. C. Hart Merriam long headed this work. His original associate, A. K. Fisher, just died as these lines were written in June, 1948.

Important legislation has already been mentioned herein. The law making Agriculture an executive Department under supervision and control of a Secretary was approved February 9, 1889. On August 30, 1890, an act was approved to suspend the importation of livestock when necessary to protect our animals from disease, and to set up quarantines of import animals when necessary. This law also provided inspection of animals imported or intended for export,

Then the act establishing the National Forests was approved March 3, 1891. It authorized the President to set up forest reserves on public lands. Custody of the National Forests came to Agriculture from the Department of the Interior in 1905. Before that Agriculture had had the skilled personnel in its forestry unit and Interior had had the woods!

On March 2, 1897, just 5 days before "Tama" Jim Wilson took office, an act was approved to control the importation of tea inferior to established standards. It set up a board of experts to prepare and submit to the Secretary of Agriculture standard samples for comparison. The period characterized by widespread assertion of the police power of the Federal Government was already dawning.

This power is derived from the welfare clause of the Constitution. It resides in the authority to regulate and supervise the conduct of individuals in the interests of society's general welfare. Its increased utilization represented not so much a change in legislative policy as a change in conditions that had to be met by an extension of Federal control in instances where State or local control proved insufficient. The growing complexity of our society necessitated this transformation, just as great increase in vehicular traffic produced traffic laws.

A highly integrated, mechanized society required many curbs on special interests and many devices to conserve natural resources that a simple society in a thinly populated land did not require. The very progress of technology rendered the States less adequate as political and administrative units. Mechanical invention brought revolution in its train. Huge monopolistic industries like transportation crossed State lines and eluded State controls. Citizens required and persistently clamored for new kinds of protection and intervention by the central Government.

One thing is clear so far. The Department of Agriculture rarely indeed entered new fields of its own volition. Bureaucrats, like other human beings, tend to be lethargic and to develop inertia. They move when and whither they are pushed. Again and again we have seen the public provide the push. We shall observe the same thing again and again in the future.

As our society changed, the complexity of the Federal Government inevitably increased. Its functions subtly transformed as they elaborated under public pressure by individuals and by groups. Beneficiaries of one action taken by Federal Government were often most strident in abhorrence when it acted to serve some other group in some other way. To each group the taxpayer's money expended on interests of the other represented shocking waste, and the employees engaged in rendering the service were chair warmers, time servers, and inveterate loafers.

Nevertheless the process continued, In each instance you trace out you will find little if any pure bureaucratic aggrandizement involved, insofar as the Department of Agriculture is concerned. Instead you will find pressure groups agitating, organizing, pleading, propagandizing, memorializing Congress, pestering the Department officials, demanding the enactment of ever new laws and the creation of ever new agencies.

We now face one of those dynamic periods during which the Department of Agriculture underwent remarkable expansion in the endeavor to provide its special constituency, the farmers, solutions for their mounting problems.

VII -- The Long Era of "Tama" Jim

We come now to a dynamic period in the life of the Department of Agriculture during which it underwent an expansion as extensive as it was rapid. We also reach the longest term served by any member of the Cabinet in the Nation's history. For James Wilson (1836-1920), born in Ayrshire, Scotland, the year that Henry L. Ellsworth became Commissioner of Patents, was Secretary of Agriculture from March 6, 1897 until March 5, 1913. He served under Presidents McKinley, Theodore Roosevelt, and William Howard Taft.

Wilson came to this country in 1851, chose farming as his occupation, settled first in Connecticut, then moved to Tama County, Iowa, whence his sobriquet. He attended Iowa, now Grinnell, College and became a local leader after graduation. He was elected to the Iowa Legislature and then to the House of Representatives, where he became a member of the Committee on Agriculture. He proved to be an expert parliamentarian and served three terms.

Wilson first began to be called "Tama Jim" while in Congress, to differentiate him from Senator James Falconer Wilson, also of Iowa. On leaving the House he began to write on agricultural subjects for the Iowa Homestead and, in 1891, he was appointed professor of agriculture at Iowa State College and head of the Iowa Agricultural Experiment Station. He placed the State's agricultural institutions on a firm scientific basis.

As it proved difficult for President McKinley to select for Secretary of Agriculture a man sufficiently acceptable to all factions to avoid failure, the advice of Uncle Henry Wallace was sought, and James

Wilson was his choice. As Secretary of Agriculture Wilson ~~he~~ was notable for immensely improving the Department's status as a scientific institution, greatly increasing the number of professional employees, and persuading Congress to appropriate money for sorely needed new buildings. Farm demonstration and cooperative extension work made their small beginnings in his term. The first tentative investigations in the field of agricultural economics also were initiated, and serious study of farm credit began. The National Forests were placed in the Department's custody, and reforestation and conservation assumed importance, for a young soil chemist, Hugh H. Bennett, began to preach soil conservation from the Bureau of Soils.

Wilson possessed superior administrative and organizing ability. He transformed his somewhat amorphous agency into a unified and an outstanding research, regulatory, educational, and custodial institution. He delighted to herald ever-advancing agricultural prosperity, but he tended to ignore the development of insidious factors which placed it in jeopardy. He was about the last Secretary who could retain in his own mind a fairly complete knowledge of the entire Department's activities, and those of each of its branches. He could answer questions of Congressional committees without first consulting a battery of experts.

But while he held office urban influences on rural life intensified rapidly. Means of communication and transportation continued to improve. The increasing manufacture of automobiles and the improvement in roads gave farmers access to new markets. Competition became keener, farm credit problems more acute, and better markets an urgent necessity. After retirement, Wilson lived in Iowa until his death. His successor had to improvise means of dealing with the problems Wilson either misunderstood or disregarded. Those means would have been wholly adequate too, had not World War I intervened.

Because he was born in Scotland the customary and traditional stories were told about "Tama Jim." He usually ate lunch at a specific table in the wooden shanty on old B St. S.W. (now Independence Ave.) which had been leased to outside interests who maintained it as a cafeteria. Tourists sometimes came to eat at his table so that they could return home saying they had lunched with the Secretary of Agriculture.

On one occasion Wilson is said to have been offended by the manners of a young man who thus ate at his table. At the conclusion of luncheon he is said to have remarked: "Now, young man, you can go home and tell your friends you had lunch with the Secretary of Agriculture." Then, proffering the check, Wilson is said to have added: "And you can also tell them you paid the check!" The story is probably apocryphal.

The Secretary's table was more often filled with Department employees of all grades--bureau chiefs, scientists, clerks, or simple messengers. The conversation and social atmosphere were warmly democratic and, on more than one occasion, the Secretary picked up the checks of the entire group and paid them.

At noon he frequently wandered around the grounds near the buildings, passing the time of day with any employees he met. The writer ran into him one hot July day and still wonders how he withstood his frock coat and vest and his battered black felt hat and, of course, the inevitable elastic-sided gaiters. Since the writer was an employee, the Secretary asked how he liked his boss and his work and what his plans and ambitions were. He made the proper replies.

Curiously enough an employee mentioned earlier herein who was long a disbursing officer and chief of the Department's Division of Accounts, recorded that Wilson was wildly extravagant with other people's

money. He called Tama Jim the exact reverse of his economical predecessor, Morton, and described him as lavish in financing personal travel for his own relatives out of Government funds. This officer evidently differed sharply and violently with Wilson on many occasions regarding the expenditure of Department funds, and regarded him as given to willful and inexcusable profligacy, and to prodigal waste of funds. Apparently even the Scots have two sides!

The matter is mentioned only because of the high position this man occupied from 1871 until 1906. The writer entered the Department as a sort of dish washer or laboratory helper in 1910, and naturally knew nothing whatever about Secretary Wilson personally. The writer, who managed to become an assistant chemist in 6 months, was employed in the Bureau of Chemistry which then occupied a 6-story building a block distant from its original structure, and which was demolished in erecting the South Building. Dr. Harvey W. Wiley was chief of the bureau.

The appointment as chemist came as a result of passing a 2-day assembled civil service examination covering the entire field of chemistry and held in Baltimore. Successful competitors had their names placed on a list of eligibles for appointment. It was the theory of the writer's uncle, who was a personal friend of Representative Lever of South Carolina, (later cosponsor of the act establishing the Cooperative Extension Service) that the next step would be a little political pull to ensure placement. But Mr. Lever merely suggested a visit to the Bureau of Chemistry by this aspirant to Government office, and his appointment came in due course, after some delay, and was in no slightest way politically accelerated.

When Wilson became Secretary in 1897, the Department employed only 2,443 persons. That number grew to over 6,000 by 1906. The following

year, because of enforcement of the new Meat Inspection and Food and Drugs Acts, and the expansion of Forest Service after the National Forests were placed in its custody, this number shot up to 9,107. By July 1, 1912, the Department had 13,858 employees, of whom 2,815 were in Washington and 11,043 in the field. Its growth was obviously enhanced by legislative acts.

The growth of certain Department agencies was quite as remarkable. By the end of Wilson's term the Weather Bureau had doubled its staff to a total of 2,051. Between 1897 and 1912 the staff of the Bureau of Animal Industry grew from 777 to 3,311, that of the Bureau of Plant Industry from 127 to 2,128, that of the Bureau of Chemistry from 20 to 546, and that of the Bureau of Entomology from 21 to 339. Of course, only the first of these was a bureau when Wilson assumed office.

Forest Service expanded from 4 employees in 1897 to 4,127 in 1912; Bureau of Soils from 33 to 159; Biological Survey from 23 to 97; Bureau of Statistics, 133 to 162; Office of Experiment Stations, 38 to 209; Division of Publications, 61 to 188; Office of Public Roads, 7 to 163; and Library, 6 to 29. Again the name given for the agency is that it had when Wilson retired. Over 2,000 new scientists, experts, scientific assistants, and agents were hired between 1902 and 1907 alone.

For the fiscal year ended June 30, 1898, the Department's appropriation was $3,573,552; in 1911 it was $19,450,339, and in 1913, $25,415,013. In 1897, requests for Department publications averaged about 500 a week; the figure was 10 times that high in 1912. In the 16 years Wilson scanned in his report submitted to the President in 1913, some 225 million copies of Department publications had been distributed. Wilson estimated that the Department had returned to the Nation, in the form of wealth produced, at least 10 times its total appropriations.

While this matter will be treated more fully later, it seems well right here to list certain laws approved during Wilson's term, each of which promoted the Department's growth by assigning it new functions. These were:

> The adulterated and renovated butter act, May 9, 1902; the act authorizing the regulation of the export and transport of livestock, February 2, 1903; the act moving the National Forests from Interior to Agriculture, February 1, 1905; the Insect Pest Act and the Livestock Quarantine Act, March 3, 1905; the Twenty-Eight Hour Law, providing for the care of meat animals in transit, June 29,1906; The Food and Drugs Act, June 30 1906, and the Meat Inspection Act, March 4, 1907; the Dairy Products Export Act, May 23, 1908; the Insecticide Act, April 26, 1910; the act establishing a standard barrel for apples, August 3, 1912; the Plant Quarantine Act, August 20, 1912; the act regulating the importation of adulterated seed, August 24, 1912; and the act of March 4, 1913, governing the manufacture and sale of biological remedies for the diseases of domestic animals.

Passage of each new act of Congress imposing further responsibilities and duties on the Department inevitably necessitated its expansion. Wilson's determination to build the Department into a great research institution was a secondary cause of increased personnel. But more research is obligatory as a background for all types of regulatory, custodial, and consumer-protective functions the Department undertook. Secretary Wilson's prime achievement was that of making the Department a world-recognized research institution.

But the Secretary was strongly inclined to judge the progress of American agriculture and the status of the Nation by this expansion in Department personnel, appropriations, and activities. He did not seem to be acutely aware, for instance, that farm exports attained the highest point they ever reached and then began to decline during his term--except for later abnormal war periods. Neither did he appear to realize that devising methods to improve farm output would foster a farm production far out

of proportion to our natural increase in population plus immigration. Once such production far exceeded effective demand calamity loomed.

Secretary Wilson retained office until increasing population and the natural expansion in domestic markets incidental thereto had just about ceased to provide automatic increases in the value of farm land. Moreover the average equity of farm operators in the land they farmed was declining, and had fallen to the 50-percent level before he left office. The percentage of our gainfully employed engaged in agriculture dropped from 33 to 26 during his term.

Meanwhile agriculture became increasingly mechanized, cultural methods improved rapidly, and farmers began more and more to depend on industrial conditions and urban living standards. Whereas in 1895-1900, agricultural exports constituted 66.4 percent of all our exports, the figure was 54.9 percent for 1905-10, and only 41 in 1915-20, a long decline indeed from the 80 percent of the 1855-80 period. Yet, except for panics in 1904 and 1907, financial conditions were relatively good during Wilson's incumbency. He left office before the 1913 panic.

Good free land had already ceased to exist. The basic potentialities of horse-drawn agricultural machinery had been fully realized. Before 1910, big open-geared gas tractors were coming into use on large farms. The invention of the automobile stimulated road building and transformed whole sectors of industry and economics. The Babcock butterfat test, devised in 1890, revolutionized the dairy industry and the use of cream separators spread rapidly.

Extensive experimental work now being carried on resulted in new, better yielding, disease-resistant plant varieties, increased the productivity of animals and poultry, and generally conspired to swell yields and enhance farm productivity. Mendel's long-forgotten work was rediscovered in 1900; De Vries announced his mutation theory in 1902, and Morgan his gene theory

in 1910 -- all during Wilson's term of office and each one important and stimulating to agricultural research. George H. Shull, E. M. East, Donald F. Jones, and F. D. Richey were busy perfecting hybrid corn during the first decade of this century; it alone was destined to increase acre yields by 20 percent.

The boll weevil crossed the Rio Grande from Mexico in 1895, and began a widespread career of depredation. Soon its activities spread demonstration farms and the clamor for extension work far and wide. Hog cholera serum was developed by Marion Dorset of the Bureau of Animal Industry and the tuberculin testing of cattle really got under way between 1900 and 1910. The first serious epidemic of stem rust occurred in 1904. Turkey red and durum wheats, and soybeans, were assuming importance. Towards the end of Wilson's term farm credit was a steadily growing rural issue. We are getting the picture in focus.

Farmers were now quite well organized and they knew how to make their influence felt. Immediately after the Civil War there had been active agrarian revolt against economic disadvantages. Hard money, high freight rates, and monopoly were the primary issues from 1865 to the end of that century. Power had shifted from agricultural to commercial interests and well the farmers knew it. But they were largely instrumental in the enactment of the Interstate Commerce, Rural Free Delivery, and other remedial acts of Congress.

The Grange was organized in 1867, but became really powerful a decade later. Three of its seven founders were employees of the Department of Agriculture. The Farmers' Alliance became the Peoples' Party in 1892. The Farmers' Union was organized in 1902, and the first Farm Bureau was formed in Broome County, N. Y., in 1911. The American Farm Bureau Federation was formally organized March 1, 1920. As early as 1893 there were 49

State agricultural experiment stations operating under the Hatch Act.

Secretary Wilson's first annual report covered the fiscal year 1897. In it he announced the appointment of a scientist who would travel around the world and supervise the introduction of foreign plants and seeds. The scientist was David Fairchild, and the agricultural industry today owes to the work of him and his associates an income enhanced by about 100 million dollars annually. The Department secured Fairchild's services very cheaply too; his salary and expenses were paid by his friend and benefactor Barbour Lathrop.

In his report, Secretary Wilson discussed increasing exports, improvement in farm homes, the necessity for study of home economics, and the fact that the Department had insufficient publications to supply the demand. He wanted to restrict seed distribution to those of foreign origin only. He announced no broad new policies. The reports of the individual bureaus, which hereafter filled the remainder of the annual book, since current agricultural information began to appear in a separate Yearbook in 1894, were prim and concise. In 1898 the Department consisted of:

Weather Bureau, Bureau of Animal Industry, Division of Gardens and Grounds, Division of Chemistry, Division of Entomology, Division of Statistics, Division of Botany, Division of Accounts and Disbursements, Division of Forestry, Biological Survey, Division of Pomology, Division of Vegetable Physiology and Pathology, Office of Experiment Stations, Office of Fiber Investigations, Division of Publications, Office of Road Inquiry, Division of Agrostology, Division of Soils, Section of Foreign Markets, Division of Seed Distribution, Library, and Museum.

In his report for 1898, Wilson discussed topics as diverse as the exportation of dairy products and nature teaching in the public schools. He suggested that the Department's facilities be utilized for postgraduate study. Dr. A. F. Woods, later Director of the Department of Agriculture Graduate School, a remarkable educational institution established during the term of Henry C. Wallace, was listed here as acting chief of the Division of Vegetable Physiology and Pathology.

The following year Secretary Wilson instituted the custom of beginning his report with brief pithy items summarizing the year's more outstanding work, as he saw it. Dr. Atwater now had a steady flow of nutrition bulletins appearing. Dr. Wiley was as prolific as ever, this time on food preservatives. N. E. Hansen, Mark A. Carleton, Walter T. Swingle, and David Fairchild were cited as notable plant explorers. Seaman A. Knapp had gone to Japan, later to return with rice varieties suited to Louisiana needs.

At the turn of the century, reporting for the fiscal year 1899, Wilson expressed his determination to bring science and scientists to the aid of farm producers. Partly to this end 21 million copies of Department publications had been distributed.

Employees of the Division of Chemistry were now cooperating with the Pure Food Congress in formulating a law to control food adulterations. A Section of Seed and Plant Introduction had been set up to accommodate the plant explorers, the earliest of whom had been Benjamin Franklin and Thomas Jefferson, unremunerated, and D. J. Browne, remunerated. The Division of Vegetable Physiology and Pathology, with its five sections, began to approach bureau proportions. Tea production was seriously discussed. Dr. Atwater's nutrition work was interesting producers and consumers

of food alike. But the report insisted that the Department must have improved laboratories and its scientific staff must be better paid.

In 1901, the Secretary began to effect the long-needed reorganization of related but autonomous units into bureaus. Some claim that this idea originated with the permanent staff and that the Secretary took undue credit for it. In any case the reform was effected and it had the Secretary's entire approval.

An Act of Congress approved June 2, 1902, combined the Divisions of Botany, Pomology, Vegetable Physiology and Pathology, Agrostology, and Experimental Gardens and Grounds, into a Bureau of Plant Industry, putting the legislative seal on the step taken in the Department. The same act conferred bureau status on the Divisions of Soils, Forestry, and Chemistry. The new bureau chiefs were B. T. Galloway, Milton Whitney, Gifford Pinchot, and Harvey W. Wiley, respectively. Each received $5,000 a year. The Bureau of Soils also absorbed work on soil surveys, analyses, technology, and drainage investigations.

The Division of Entomology became a bureau in 1904, with L. O. Howard as its Chief. The Office of Public Roads received bureau status in 1905, and the Bureau of Biological Survey was created in 1906.

At the turn of the century the Office of Irrigation Investigations was deep in study of agricultural engineering problems. This work had started in a small way in the Office of Experiment Stations. The Weather Bureau was trying heroically trying to annihilate hailstorms by firing canon into them, but reported dismal failure. Each unit desired more money, more space, more employees, more equipment, and a series of publications of its very own.

Reporting for the fiscal year 1901, in 1902, Secretary Wilson expressed his regret at having to pay $21,700 annual rent on buildings to accommodate his growing staff, and again plaintively requested a new building. About this time the seedsmen were mollified by being permitted to cooperate with the Department in the Congressional seed distribution. Secretary Wilson's reports were expanding in size like everything else.

In this one we find mention of the demonstration farms. These selected farms were being used by Seaman A. Knapp of the Bureau of Plant Industry (he was earlier a plant explorer) to demonstrate the value of scientific cultivation methods. Knapp is usually credited with originating this idea, though some of the States claim with some justice that they used it before his time. In 1914, the Federal Cooperative Extension Service was legislated into existence to provide farmers with adult education in agriculture on their own farms. But, in 1901, farm journal editors and farmers' institutes had for some time been pioneering in like work which later became an organized Federal activity undertaken at rural demand.

In 1902, as Wilson reported in 1903, the Department was already acting as a postgraduate institution for the training of young scientists, nearly 500 of them having thus far received such instruction. Much earlier than this the Department chemists had taken in and trained young assistants from the colleges and universities.

Dr. Wiley and his staff were preparing to enforce the import food law approved March 3, 1903. Candidates were also being sought for Dr. Wiley's famous "poison squad", to test the effects on human health of foods containing preservatives and coloring agents then commonly used. The squad finally consisted of consecrated bureau employees who ate all their meals at the laboratory and faithfully performed as guinea pigs.

The Weather Bureau had undertaken investigations at Mount Weather, Va., a beautiful site which it proceeded to desecrate with some of the most atrocious-appearing buildings ever littered over a landscape. Here it had determined to unravel the laws of cosmic physics, utilizing balloons and kites, and to interpret the "language of the sun." The Secretary staunchly commented: "One thing is certain, that the founding of such a research institution is the true scientific way to provide for the future, in assurance that the natural difficulties will finally yield to human persistency and intelligence." Actually they did not yield.

Surplus production required thought and discussion. It was becoming a hardy perennial.

The boll weevil's malign appearance gave great impetus to Dr. Knapp's farm-demonstration work. The weevil quickly produced a crisis in cotton production. Texas especially began to appeal loudly and incessantly for Federal aid, plenty of it, and quickly. At one huge mass meeting in Dallas a half million dollars was demanded to fight the weevil. The demonstration-farm methods proved admirable for instructing farmers how to combat the insect. The first one for the purpose was established at Terrell, Tex.

Finally, in 1903, Congress appropriated $1\frac{1}{2}$ million dollars for a new Department building. This brings us to the popular myth entitled "Wilson's Wings." The old Red Brick Building of 1867-68, had long been grossly overpopulated. Yet appropriations had come through only for a couple of shanties in addition to it. Therefore space was rented wherever possible and much of it, in former residential property, was most unsuitable and inappropriate. Scientists and clerks were often esconced among bathtubs, hand basins, kitchen ranges, sinks, and even lavatories.

In 1903 the Department as a whole occupied 137,963 square feet of floor space of which 75,771 were rented. The plans for its new building were at last approved August 23, 1904. Congress may have anticipated that only a single structure would be erected, but at the very beginning there were ambitious plans for building several winds which could be connected later. The earliest plans drawn, while architecturally attractive, were wholly unacceptable functionally. The resulting edifice would have been unfitted for laboratory work and the scientists had to have some say in the matter.

At one time a scheme was even proposed for the eventual construction of ten units, all to be connected together at some future time. Everybody seemed to know that the Department was destined to grow enormously. It was thought that the 1½ million dollars granted would erect three of these units, say 100,000 square feet of floor space, and that this would accommodate all the Department, except the Weather Bureau, which was to remain in Georgetown.

But finally two L-shaped structures were built over a period of 6 years, mere vacant space being left between them to be filled in by the central Administration building which came into existence during President Hoover's administration. Wilson's Wings then became the East and West Wings of the Department's Administration Building. Nor is there evidence that Congress was particularly upset over this decision.

However, President Theodore Roosevelt's newly created Park Commission displayed considerable apprehension. For, in digging the original excavations for the Wing's foundations they, like the old Red Brick Building, were centered in 13th St. S.W. Unfortunately, 13th St. was nearer 14th than it was to 12th. That would throw the entire

building off center when ultimately completed.

Thereupon the Park Commission protested bitterly. But it had cost $18,000 to dig each one of those foundation holes and Secretary Wilson refused to fill them up and start over. Ultimately President Roosevelt had to arbitrate so, after a Cabinet meeting one day, he promised to visit the Department at an appointed time and see for himself what should be done.

Thereupon Secretary Wilson and Dr. Galloway, punctiliously attired, waited to greet the President, but the President was late. Nearly an hour after the appointed time Secretary Wilson observed the shooting of guns from over the White House way. He then remembered that the high school students were staging a sham battle right in the rear of the White House and he was willing to bet Theodore Roosevelt was there.

He was. He finally arrived an hour late, on foot, considerably disheveled, but very happy, for he had had a dandy time shooting the guns with the kids. He looked at the holes and he looked at the blueprints. Then, putting an arm around Secretary Wilson, he said that he had several elderly Senators who would die at once unless the holes were moved, and he was sure the Secretary did not want to be the cause of their demise. In short, he upheld his Park Commission, the holes were moved, and the Administration Building of the Department of Agriculture is today about 140 feet nearer 14th St. than it would otherwise have been!

Meanwhile a sedate sidewalk and green grass filled the space between Wilson's Wings for many years. Today the Wings are not only fitted into the Administration Building, but they are also connected with the far larger South Building by archways, one dedicated to Seaman A. Knapp, the other to old "Tama" Jim himself. The archways cross old B St. N.W, now Independence Ave., overhead.

In 1905, Secretary Wilson hailed the unparalleled prosperity of the times, and announced that the farmer's wealth and wellbeing had improved still further. Yea verily the farmers produced and flourished mightily, even becoming bankers in some instances. But our export trade was dwindling, there was a cloud the size of a man's hand in the sky, and studies in agricultural economics were urgent.

On February 1, 1905, the custody of those National Forests was transferred to the Department, and fused with the Bureau of Forestry and Gifford Pinchot to form the Forest Service. The Bureau of chemistry was studying food poisons and cooperating with the Post Office Department in denying the use of the mails to manufacturers of fraudulent remedies, Dr. Wiley had now demonstrated many abuses in the patent medicine field and was strenuously advocating rigid control of dangerous, habit-forming drugs. The Bureau of Statistics had considerably improved its crop-reporting service, and the Office of Road Inquiry had become the Bureau of Public Roads.

The Bureau of Plant Industry had undergone a thorough reorganization. W. J. Spillman had sent forth his first field agent, A. B. Ross. Clyde W. Warburton, later head of Extension Service, was now a district supervisor. A new aspect of such work began to flourish, the adult education of farmers by agents, rather than leaning wholly on the demonstration farm technique, or using Spillman's diversification farms.

The Department's functions had outgrown its staff, facilities, and quarters. There had been a heavy employee turnover in some agencies because of low salaries paid. The Wilson Wings were nearly, though not quite complete by 1906, but they were outgrown before they were occupied. It was mournfully realized that the buildings now being constructed would not house the Department and that it would require another 1½ million

dollars to accomplish that objective. The Department's appropriation for 1905 was stated to be $7,175,690, though present records put it at $6,767,251. In any case, Secretary Wilson reported that there were now 1,594 employees in Washington and 4,648 in the field.

The farmer was producing and selling very well, but Secretary Wilson was determined that he should produce in still greater abundance. Though the farmer required more education for this new era, and his living standards could have been improved, his outlook was optimistically pronounced very promising. Indeed Wilson played on this theme even in the panic year of 1907, saying that crops had brought high returns and "the farmer has received much for which to be thankful."

The Weather Bureau reported destruction by fire of its main building at Mt. Weather. The Bureau of Plant Industry now supervised Congressional seed distribution, while its Dr. Knapp continued his demonstration farms and farm meetings with great success.. In fact, the General Education Board attached such importance to Knapp's work that it now supplied funds to defray the expenses of extending it to other southern States, ultimating investing as much as $600,000 in it in one year. All this activity and Spillman's Office of Farm Management too, sprang up in old Bureau of Plant Industry.

Dr. Wiley had at last won his long battle to get the Food and Drugs Act approved. His Bureau of Chemistry was charged with its enforcement. A new staff of chemists and inspectors was being appointed and, before long, the Bureau's personnel would be doubled.

Reporting for 1907, Secretary Wilson observed that the farmers had now piled up billions upon billions in wealth and deserved a happy Thanksgiving. Meanwhile Congress had given the Department so many new laws to enforce that its legal work had had to be reorganized. It now

had 10,420 employees in 9 bureaus, and Wilson almost appeared to think that its growth and farm prosperity were interdependent. To some extent they were, but not wholly.

Agricultural science, as nobly exemplified in the Department's work, had enormously increased production. But this expansion had been concomitant with a reduction in farm exports and a diminishing rate of population growth. Yet the Secretary could derive satisfaction from the fact that the farmers could henceforth always provide sufficient food for our domestic needs. That was something, especially if we could all afford to buy that food.

In 1907, a Board of Food and Drug Inspection had been organized to assist the Secretary in enforcing the food and drug Law. That is a nice was of saying that Wiley's idea of enforcement did not coincide with Wilson's. There were gargantuan battles in those days between the Secretary and Dr. Wiley as to what should be done. Neither was blameless. Wiley did tend to go further than the provisions of the law warranted, and his propensity for making daily headlines was distracting. Yet one could go too slowly and do too little, Finally, Wiley gave up and left in disgust.

Wilson, in his 1907 report, praised farmer cooperatives and approved the rapid extension of farmers cooperative demonstration work--plant industry's effort to bring operators the latest scientific advances right on their own farms. There were now 157 field agents and 32,000 demonstration farms. The General Education Board now wholly supported the eastern or "Extension Division" of this work, attesting its conviction that the method was sound and useful.

Whatever the Secretary thought, President Theodore Roosevelt was not entirely satisfied with farm conditions for, in 1908, he appointed his Country Life Commission. Liberty Hyde Bailey of New York was its chairman.

It is difficult to believe that, as these line are written, Bailey is skittering over South America by plane in search of new palm specimens, and still producing valuable monographs in steady flow. The other members were Henry Wallace of Iowa; Walter Hines Page--later our World War I Ambassador to Great Britain; Roosevelt's friend, Gifford Pinchot, the Forester, later Governor of Pennsylvania; and Dr. Kenyon L. Butterfield of Massachusetts Agricultural College.

The Commission held 30 hearings and sought advice from over 100,000 persons. **It proclaimed the need for a new race of rural teachers and a new rural clergy.** It then advocated increased farmer cooperation, the promotion of such rural social advantages as would transform the farm into a more congenial living place, and increased effort to make farm life both more gainful and more rewarding spiritually. It pressed for an immediate inventory of our rural resources from the soil up, it preached a united campaign of rural progress, and it held that the extension work should be organized on a national basis through the land-grant colleges.

In 1908, serious study of farm economics was being carried on in the Bureau of Plant Industry with W. A. Peek, first Agricultural Adjustment Administrator in 1933, in charge. The subjects investigated were farm accounts, farm records, and the economic value to be derived from using modern farm equipment.

The Bureau of Chemistry was now enforcing the Food and Drugs Act actively. Walter G. Campbell had been appointed its Chief Inspector. He later became the Department's Director of Regulatory Work, a job he himself succeeded in having abolished, whereupon he became head of the then Food and Drug Administration at less salary than he had been getting. This authentic example of a bureaucrat who abolished his own job and succeeded with great effort in getting his salary reduced should go down in history.

Secretary Wilson significantly observed in his report for 1909 that "'Adulteration' is an ugly word in the popular mind." He admonished Dr. Wiley against making his new law an instrument of repression. He had appointed a Referee Board of Consulting Scientific Experts, with Ira Remsen as Chairman, to check Wiley's theories, and Wiley sulked. The paramount question was: Should benzoate of soda and sulfur dioxide be used as food preservatives. Wiley, on a basis of findings in his "poison squad" experments, said No! The Board demurred, and President Roosevelt interested himself personally in its reasoning.

By this time the Department was enforcing food, drug, tea, insecticide, bird, livestock, quarantine, meat inspection and many other regulatory statutes. It inevitably grew as Congress tossed it new laws to enforce.

A Trade Wastes Laboratory had been established in the Bureau of Chemistry, and thus began research on agricultural culls, byproducts, surpluses, and new uses for farm commodities. This later blossomed forth as the Bureau of Agricultural and Industrial Chemistry and its four huge Regional Research Laboratories.

In his report for 1909 the Secretary insisted that agriculture had, in 1908, attained the highest point yet and that this just "must add to the prosperity of farmers." He pointed enthusiastically to the rising prices of meats and other farm products. The first subhead in his report for the year following was "Prosperity Maintained." To be sure, the consumer was now paying more for things, but the farmer should not be blamed for that. He was not getting exorbitant prices. Now maybe the trouble was in the distribution sector. Yields do expand under scientific methods of production, the Secretary reflected--then he abruptly changed the subject

and suggested that a Bureau of Public Health be established in his Department!

The Secretary required a volume of nearly a thousand pages in 1911, to report what his Department had achieved in fiscal year 1910. Even then he failed to mention this writer's appointment as a laboratory helper! But he held that, despite some declines, prices had been maintained well and that the trade balance favored exports. The economic results of cold-storage methods had been studied. The Department's business procedures had been improved. It now had 2,514 employees in Washington and 10,190 in the field.

Now, 7 years after its inception, cooperative demonstration work had spread far and wide. Farm children were being organized into clubs. The Bureau of Plant Industry continued gingerly to study farm economics. It was sending forth trained men now as teachers in its "farm problem or extension work." W. J. Spillman was spreading the farm demonstration gospel North and West; in 1911, he helped establish the first Farm Bureau. Bradford Knapp, son of Seaman A., was carrying on farm demonstration work in the South.

During 1910, Gifford Pinchot, the stormy Forester, was summarily dismissed by President Taft. That ended his prolonged controversy with Secretary Ballinger of the Department of the Interior. He may have been "Teddy's fair-haired boy", but he was not Taft's. His departure was a heavy loss to the Department.

The story of how motion pictures surreptitiously sneaked into the Department belongs here. "Tama Jim" thought the movies were probably the work of the devil and he took no pains to conceal his feelings. Yet the Department possessed a movie camera as early as 1908; its first production was a recording of the Wright brothers demonstrating their pioneer biplane for the Signal Corps at Fort Myer, Va. But it remained for O. H. Benson, a 4-H Club pioneer, to overcome Tama Jim's prejudice.

He did this by filming the Secretary as he addressed a visiting group of corn-club boys, using a concealed camera to do so. Later on a projector was set up in the old Red Brick Building and Wilson was lured in front of the screen to see some still pictures. Then suddenly the movie reel went on showing him addressing the boys. The old fellow was so amazed and delighted with his movie personality that motion pictures ceased to be a bootleg enterprise in the Department forthwith.

Workers were regularly assigned to movie work in 1912. In 1913, Wilson's successor, David F. Houston, decided that films might quite properly be used for educational purposes. The full story, by Raymond Evans, former Chief of the Motion Picture Service, will be found in Business Screen for July 1, 1943. Thus it was that the Department of Agriculture came to have the first government motion picture laboratory in the world.

Secretary Wilson's final report, covering fiscal year 1912, was a monster of more than 1,100 pages. It opened as usual with trenchant accounts of agency activities. It announced that a broad study of farm credit conditions was now being carried on in a number of communities, since it had become apparent that improved credit facilities were urgent.

The Weather Bureau was about to conclude its unsatisfactory investigations at Mt. Weather. The Bureau of Statistics was carrying on extensive studies of farm economics, while the standardization and grading of grain also occupied departmental attention. Dr. Wiley had resigned disgruntled, to wind up his career, of all places, on Good Housekeeping. He had been grudgingly vindicated after an investigation of his activities. His Bureau of Chemistry, now housed in a 6-story building of its own, still a block from the cellar from which the early chemists were evicted by Rusk, had grown from 20 employees in 1897 to 500 now.

The report mentioned a Division of Production and Distribution and also one of Research and Reference. It explained further that one phase of the farm economics study by the Bureau of Statistics concerned the purchasing power of farm products.

An Insecticide and Fungicide Board had been created to enforce the law approved April 26, 1910, to control interstate commerce in insecticides and fungicides. Under the Plant Quarantine Act of August 20, 1912, a 5-member Federal Horticultural Board, composed of Department employees, was established to prevent the importation of nursery stock unless free from plant diseases and insect pests. This Board also prescribed regulations for the shipment of such imported stock and the Secretary was authorized to imposed quarantines as required.

The Federal Seed Act of August 24, 1912, as amended, prohibits the importation of seed that are adulterated or unfit for planting. It regulates interstate commerce in adulterated or misbranded seed, and provides for criminal prosecution of deliberate violators. Obviously enforcement of such statutes necessitated considerable expansion in personnel, space and equipment, and the undertaking of more research to fortify regulatory actions.

The act of May 29, 1884, which founded the Bureau of Animal Industry, granted it no authority to regulate traffic in diseased livestock. To remedy this defect Congress, at the request of the Department, passed the act of February 2, 1903 to control the exportation and interstate transportation of livestock. An additional law approved May 3, 1905, controlled infectious and contagious diseases of livestock and aimed to prevent their spread from areas in which they were known to exist.

An act was approved May 25, 1900, to prevent the importation into this country of birds destructive to livestock or to poultry, and to regulate interstate commerce in game killed in violation of State laws. This socalled Lacey Act was enforced by the Biological Survey and represented another intervention by Federal Government in matters the States could not regulate satisfactorily.

The 28-Hour Law, approved June 29, 1906, was a re-enactment with substantial and important amendments of a law approved March 3, 1873, to prevent cruelty to livestock in transit. It was given to the Bureau of Animal Industry to enforce. It requires that livestock be unloaded every 28 hours, unless the animals can get comfortably to their destination by a few hours more of travel; it stipulates proper watering, feeding, and pen conditions.

The Food and Drugs and the Meat Inspection Acts became effective the same day. The latter replaced a makeshift statute of August 30, 1890 and expanded an act of March 3, 1891, which made mandatory post mortem inspection of all animals subject to interstate commerce. However, this also proved insufficient. Packing house conditions remained bad. Then Upton Sinclair wrote the Jungle, which aroused President Roosevelt's interest. Both the President and Secretary Wilson appointed investigating committees. Passage of the act of June 30, 1906 (it was amended to its present form, March 4, 1907) was recommended to provide for Federal inspection of all meats and most meat products in all stages of preparation, yet another Federal intervention where the States proved inadequate.

We have already mentioned how the National Forests came to Agriculture from Interior, where they had been since June 4, 1897. The forest districts were created December 1, 1908. The Weeks Forestry Law, approved March 1, 1911, authorized the Department to acquire timbered

lands when required to maintain stream navigability; such lands were organized and maintained as National Forests. The act of June 4, 1897, had already outlined the principles for administering such forests.

Wilson thus concluded his final report for 1912:

"The record of 16 years has been written. It begins with a yearly farm production worth $4,000,000,000 and ends with $9,532,000,000. Then, farmers were loaded with debts that were a pitiful burden;prosperity followed and grew with unexampled speed. Then, the farmer was a joke of the caricaturist; now he is like the stone that was rejected by the builder and has become the headstone of the corner. Beginnings have been made in a production per acre increasing faster than the natural increase of population. There has been an uplift of agriculture and of country life.

"In this movement the Department has been gradually equipped to occupy a foremost place. It came to learn and it remained to teach. Its influence penetrates the remotest neighborhood. It performs a mission of welfare and happiness to farmers and to the whole Nation. The millions of dollars that it costs are returned in tens of millions of wealth saved and produced.

"The Department is prepared to continue and increase its public service. During 16 years it has progressed from kindergarten through the primary, middle, and upper grades of development until now it has a thousand tongues that speak with authority. Its teachings, its discoveries, and its improvements are permeating the national agricultural life. The forces that are at work must cause ever-increasing results.

"The great and growing improvement carried on by the Department for agricultural betterment has not been sustained solely by one man, nor by a few men. A choice corps of scholarly experts in their special lines of

endeavor have been growing in membership, in breadth of view, and in practical application of their efforts. They have been and are men both good and true, men with high ideals, often sacrificing greater remuneration in private employment for love of the great results of their public service. No great work can be begun, nor sustained, by this Department without such men.

"Men grow old in service and in years, and cease their labor, but the results of their labor and the children of their brains will live on; and may whatever of worth that is in these be ever-blooming."

It looked very much as if everything was settled and that the Department had solved the farm problem. But the key to future difficulties lies in that sentence about increasing agricultural production faster than the natural increase in population. This, combined with a declining export market and an effective demand limited by consumer income levels, soon produced a sinister form of overproduction that was really underconsumption.

Meanwhile immediate attention must be given to powerful social and economic forces now at work in agriculture. This was the undertaking of our World War I Secretary of Agriculture, the austere individual, David F. Houston, sometimes called Old Icebox. But he was decidedly the most competent and distinguished man so far to head the Department.

So it was that Scottish old Tama Jim, with his familiar burr still intact, set his face towards the West and went home. The writer saw him as he rode to the Capital with President Taft, President-elect Wilson, and other members of the Taft Cabinet. Wilson bowed and smiled. Taft beamed blandly. Tama Jim looked grim and dour.

He was passing out of the picture. An era was ending. He was almost a caricature of your typical American farmer in his Sunday best. He habitually wore the goatee, a frock coat, elastic-sided congress gaiters, and the battered black felt hat. At last the history of 16 years of achievement had been recorded and he was heading home. After him came a deluge, the approach of which he little sensed.

VIII -- Houston, Planner, and World War I

Perhaps many of us vaguely remember the farm slogan of World War I: Food Will Win the War. In World War II Secretary Wickard revised it by adding: And Write the Peace. But how many of us remember David F. Houston, our first World War Secretary of Agriculture, the kind of man he was, the ideas he espoused, and the manner in which he handled the trust imposed in him by President Woodrow Wilson?

The Department of Agriculture had just emerged from that 16-year period of scientific growth and reorganization. Tremendous progress had been made, particularly in research in the natural sciences. Many detached, semiautonomous units had been grouped together into formal bureaus. Thus fewer officials reported directly to the Secretary. The scientific personnel of the Department had grown rapidly in numbers, and their investigations undoubtedly augmented farm production.

Farmers were relatively prosperous during the long era of Tama Jim, but they began to face urgent problems towards the end of it. Our all-time high in farm exports occurred almost at the beginning of his term, 1898. As science came swiftly to their aid it became far easier for farmers to overproduce in the sense of exceeding effective demand. Hence social science had begun to seep into the Department. The farmers just had to have more marketing assistance, better credit facilities, and improved standardization of their commodities.

Some studies in such fields were undertaken inconspicuously and almost apologetically during Secretary Wilson's term, but full realization

of their importance and exigency was lacking until Houston stepped on the scene. Again, the process of demonstrating approved practices to farmers on their own farms, was being carried on in a variety of ways, but from a Bureau of Plant Industry. Yet it dawned on very few that great changes were in order which would be accelerated and intensified by a global conflict.

In reviewing Wilson's 16 years we found that no little attention had already been accorded the marketing of agricultural commodities and farm credit. Agricultural economics was forcing its way into the Department. O. E. Baker was already on W. J. Spillman's staff in 1912, and O. C. Stine, another student of H. C. Taylor, came along four years later. The grading of grain had been approved departmentally in 1906 and of cotton in 1908, steps towards improved marketing.

David F. Houston (1866-1940) was a native of South Carolina who took his master's degree in government at Harvard, and then joined the faculty of South Carolina College, where he had taken his undergraduate work. Next in order he became Superintendent of Schools in Spartansburg, S.C.; a professor at Harvard; President of Texas Agricultural and Mechanical College; and Chancellor of Washington University, St. Louis. President Wilson called him from there to become Secretary of Agriculture, March 6, 1913.

While dignified and somewhat severe, Houston was an outstanding man, versatile, broad in knowledge, a gifted thinker. Though his primary study had been government and economics, he was also a financier and a philosopher. His agricultural thinking was considerably in advance of his time, and he ushered in another dynamic phase of the Department's history. On February 1, 1920, he resigned to become Secretary of the Treasury. He served one year, then became Chairman of the Board of

the Mutual Life Insurance Co., of New York. He held many other important business and financial posts before his death, in 1940.

Undoubtedly the most distinguished man intellectually so far to head the Department, he had remarkable prescience. He acutely sensed that the agricultural industry must now be planned nationally. But he was also a practical mam who made almost immediate changes to bring the Department into step with the times. When he took office, Beverly T. Galloway. formerly Chief of the Bureau of Plant Industry, was Assistant Secretary, C. C. Clark was Chief Clerk, and Francis G. Caffey was Solicitor. The agencies in the Department and their supervising officers were:

Weather Bureau, H. W. Williams (acting); Bureau of Animal Industry, Alonzo B. Melvin; Bureau of Plant Industry, Wm. A. Taylor; Forest Service, Henry S. Graves; Bureau of Chemistry, Carl L. Alsberg; Bureau of Soils, Milton Whitney; Bureau of Entomology, L. O. Howard; Bureau of Biological Survey, H. W. Henshaw; Bureau of Statistics, Victor H. Olmstead; Office of Experiment Stations, A. C. True; Office of Public Roads, Logan W. Page; Library, Claribel R. Barnett; Supply Division, Cyrus B. Lower; Division of Accounts and Disbursements, A. Zappone; and Division of Publications, Jos. A. Arnold.

The heads of the scientific agencies still retained their specialist titles--plant physiologist and pathologist, forester, chemist, soil physicist, entomologist, biologist, and statistitian, in addition to their administrative titles. This quaint custom was on the way out.

Secretary Houston's first annual report, dated December 1, 1913, went far to indicate the temper of the man. Much of it is not yet dated. All his reports were terse and compact as compared with Wilson's monsters. Almost at once the Secretary named certain obviously needed changes he had

already effected in the Department's business operations. He emphasized that it was difficult to procure personnel with the requisite training and experience in the various fields of agriculture at the low salaries then paid. He asserted that $4,000 a year was an inadequate maximum salary for Department personnel, and that many leaders in the Department's work could easily command salaries twice as high outside.

Further reorganization impended. Thus Houston wanted to improve the crop-estimating service therein and then call the Bureau of Statistics the Bureau of Agricultural Forecasts. He so referred to it in this report, but Congress did not let that one get by. Anyway he did arrange for farmers to get the published crop forecasts more promptly and he established an Office of Markets. He stressed especially the economic and health importance of the Food and Drugs Act and made specific suggestions for strengthening it by amendment.

Then he remarked: "Still further changes in organization seem requisite." The Department, like other large institutions, tended to segregate into highly specialized groups with somewhat arbitrary boundary lines.. These were defined rather by the methods employed than by the objectives sought. "Such arbitrary divisional lines, separating branches of work aiming at a common result, produce a certain amount of jealousy and assumed conflict of interest and lost motion, leading eventually to stagnation."

Houston felt that a new and basic plan of cooperation and coordination, and a broader grouping of departmental services was required. The Department must manage to reach with the information it developed in research the people who must change that knowledge into productive action.

Secretary Houston reasoned that six broad groupings might possibly be made to accomplish his purpose: a Research Service, a Weather Service, a Forest Service, A Rural Organization Service, a States Relation Service, and a Regulatory Service. He therefore sought Congressional warrant fundamentally to reorganize the Department, but the job never was done as he here planned.

According to him the Department had hitherto quite naturally concerned itself, in the main, with production problems. But now quite other problems demanded attention, such as increased tenancy, absentee ownership, depleted and exploited soils, inadequate farm business methods, and an abject failure on the part of "the great majority of farmers to apply existing agricultural knowledge." According to the best guesses he could secure, and they were guesses in his estimation, less than 40 percent of the farm land was reasonably well cultivated and less than 12 percent was yielding fairly full or above-average returns. The Secretary continued:

"We have unmistakably reached the period where we must think and plan. We are suffering the penalty of too great ease of living and of making a living. It is not singular that we should find ourselves in our present plight. Recklessness and waste have been incident to our breathless conquest of a Nation, and we have had our minds too exclusively directed to the establishment of industrial supremacy in the keen race for competition with foreign nations. We have been so bent on building up great industrial centers by every natural and artificial device that we have had little thought for the very foundations of our industrial existence."

So far, the Department had been content to direct its attention to the problems of individual farmers, "and the broader economic problems of rural life have received relatively little attention." . . .In many directions further production waits on better distribution, and . . . the field of distribution presents problems which raise in very grave ways

the simple issue of justice." Houston felt that the farmer did not get what he should for his product, the consumer paid entirely too much for it, and the existing system of distribution was unnecessarily burdensom. This was a very advanced view recognizing the evils of the "distribution age."

No expository comment is required to show that a competent mind functions here. Secretary Houston continued: "Just what part of the burden is due to lack of systematic planning, or inefficiency and economic waste, or to unfair manipulation, one cannot say. As difficult as are the problems of production, they are relatively simple as compared with those of distribution, and there is danger not so much that nothing will be done, but that pressure will be brought to bear on the Department to take action **everywhere** before it is prepared to act intelligently **anywhere**. The Department has given assistance here and there in the past; it is prepared to give further assistance and information now, and it has shaped its projects and instituted more systematic investigations, which should have results of great practical value to individuals and communities."

Obviously the idea of agricultural planning did not enter the picture with the New Deal. Houston was a planner from the word go. An act had been approved March 4, 1913, "to enable the Secretary of Agriculture to acquire and diffuse among the people of the United States useful information on subjects connected with the marketing and distribution of farm products." The act made $10,000 immediately available. Wider planning for the agricultural industry began.

This act authorized marketing surveys. It would underwrite studies in transportation and storage problems, investigations of city marketing and distribution, the promulgation of market standards and grades for agricultural commodities, and would promote research on co-operative production and marketing. The Secretary went into detail about

the meaning of uniform commodity standards, the elimination of waste, the necessity for better serving the public interest, and the need for improved rural credit.

He also broadly considered rural life, the necessity for better country schools, more comfortable rural living, improved health standards, and better sanitation and hygiene in the farm home. He cited good roads as a prerequisite for better marketing, and again emphasized the necessity for improved enforcement and strengthening of the Food and Drugs Act to protect both rural and urban people. For he recognized that the old act was outdated though it took another quarter of a century to get an improved law on the statute books.

Houston turned next to the status of the farm woman who had had too little attention since Dr. Hall repined for her in Newton's day. Because her domestic work had a direct bearing on the efficiency of her husband and the field workers, and her handling of the home could alone make farm life pleasant and satisfactory, she occupied a highly strategic position and should be assisted in solving her problems. Houston continued:

"The facts that the woman's work and time have a real monetary value and that her strength is not unlimited have not been given the consideration they deserve. As a result, on many farms where there is always enough money to buy the latest agricultural appliance, there is seldom a surplus to provide the woman in her productive work with power machinery that will lighten her physical labor." Dr. Hall rediviv~~p~~us! The efforts of the American Home Economics Association thus gained recognition. Newton's Dr. Hall was vindicated. The hardships of the Farmer's wife were to be ameliorated.

The Department now reasoned that intelligent help to the woman in the kitchen in solving her home-management problems would contribute notably to successful farming. To ascertain what kind of assistance farm women wanted, a letter of inquirer was addressed to 55,000 of them all over the United States. It was found that many sought means of increasing their own person income from poultry, butter-making, or gardening; many others craved suggestions regarding new handicrafts or gainful home occupations. Others still wanted aid in marketing their cakes, preserves, and fancy work. These were pedestrian desires, and it took about a decade to provide the ladies with a home economics bureau. **But, beginning in 1914, an Office of Home Economics, directed by C. F. Langworthy, did what it could for them.**

The new Secretary was primarily interested in distribution. He wrote that "further production waits on better distribution", and it worried him that, though consumers paid dearly for their purchases, farmers got less than their legitimate return on products sold. This stress distorted the entire distribution system. According to Houston the troubles were lack of systematic planning, inefficiency and economic waste, and unfair market manipulation; these all burdened agriculture and the Department must seek to resolve the dilemma.

To diffuse information more rapidly the Secretary established an Office of Information in his own office, specifically declaring that it was not a propaganda agency, its sole function being to disseminate facts. Better coordination was sought with the State land-grant colleges and experiment stations. The Smith-Lever Bill, which when approved set up the cooperative Extension Service, was proposed.

A drastic reorganization of the Weather Bureau was announced. Its work at Mt. Weather was summarily discontinued, because that had not been found to be a good locality for carrying on aerial research.

That fact has been cited by scientists in 1903, when their advice was requested and then ignored. In any case the coming of the airplane made balloon research rather archaic.

A new era dawned for the Department and for agricultural policy with this first report of Secretary Houston. Subsequent reports described the unfolding of his plans in practice. For Houston was never a man to set forth a theoretical program and then forget it.

In his second annual report, dated November 14, 1914, he remarked that "It has been assumed that we have a natural monopoly in agriculture--that it could take care of itself, and for the most part we have cheerfully left it to do so." But that day was over. The Department was now studying not only the problem of production; it had an active interest in agricultural economics and sociology, and in the distribution of farm commodities.

Houston turned to southern agriculture. Livestock was neglected. The average farm family in Georgia produced only two eggs a week, two-thirds of an ounce of butter and two-thirds of a pint of milk a day, and one-third of a hog, one-twelfth of a beef, and one one-hundredth of a sheep per year per family member. "The exclusive devotion to a single crop anywhere is unwise for normal times and spells disaster in times of disturbance," he warned. He then eloquently preached crop diversification to the South.

Houston also realized that it was ridiculously inefficient for farm management studies to be carried on in the Bureau of Plant Industry. He recognized the looming importance of the demonstration-farm and agricultural extension work, but felt it would function far more effectively if independent.

He next asked and heeded the advice of such men as Thomas N. Carver

of Harvard, George F. Warren of Cornell, Andrew Boss of Minnesota, H. C. Taylor of Wisconsin, James A. Foord of Massachusetts Agricultural College, John I. Falconer of Ohio State, and Richard L. Adams of the University of California. Actually he inaugurated the New Freedom period which extended to the death of Henry C. Wallace and through the short incumbency of Secretary Gore.

Since 1905, the Office of Farm Management had carried on its studies in the Bureau of Plant Industry. While it adhered mainly to the costs of farm operations, Secretary Houston felt that the economist had his place in all agricultural undertakings. Again he insisted that any constructive farm program must contemplate study of distribution as well as of production. While the producer should receive a fair reward, agriculture still knew next to nothing of where the dollars went the farmer failed to get. Cooperative marketing, rural credit, improved organization of farm communities, laws establishing cotton and grain standards, warehousing and land mortgage banks all now became important Department interests. The Cotton Futures Act, to reform methods and practices of the exchanges, was under discussion.

Forestry and water conservation both occupied considerable space in this second Houston report. The Secretary wrote: "Water is a National Forest resource of even greater importance than timber or range, for the forests feed every important western stream."

By now Department reorganization had proceeded further. This went part way towards dividing its activities into orderly regulatory, research, and extension groups. Houston still believed that the farm management and farm demonstration work must be removed from the Bureau of Plant Industry in order to function effectively. For they dealt essentially with

business, economic, and rural education problems, and with approved agricultural practices in every field, not with just plants.

The Secretary also wrote: "While we labor to increase the supply of material things we cannot neglect the higher things--the intellectual and social sides of rural life." He had wise and great plans. But already war waged in Europe, and his plans would soon be deflected by the impact of world catastrophe. American agriculture was so much worse off because of that.

Secretary Houston's third annual report, dated November 13, 1915, opened thus: "In spite of the greatly disturbed condition of the world during the last fifteen months, agriculture in the United States, as a whole, has prospered. . . .The abundant supplies of foodstuffs made it possible for this country to retain enough at home to satisfy normal domestic needs." For much had been exported to Europe.

Emphasis was once more placed upon new means of getting useful information expeditiously from scientist and laboratory to farmer and field. This was essential to step up farm production. The Secretary observed that a farm unit might be efficient for production, yet unprofitable because of faulty marketing. A market news service had been established to obtain and rapidly disseminate information on current wholesale and jobbing prices of farm commodities.

The Office of Markets and Rural Organization was devoting much energy to the intensive study of other marketing problems. In 1917, this unit became the Bureau of Markets. Cotton standards had been established under the Cotton Futures Act approved August 18, 1914; so far this law was working well.

The cooperative extension or Smith-Lever act was approved

May 8, 1914, after years of devoted work by many pressure groups. It provided a Nation-wide system of home instruction in agriculture and in home economics for the farm population. It also established an interlocking relationship between Federal and State agencies, as the work was tied up into the land-grant colleges. The States Relations Service was created, in line with Houston's thinking, and into it went the Extension Service, the Office of Experiment Stations, and also the Office of Home Economics.

This novel pioneer venture in adult education for which there had been such long and sincere agitation, became a mighty implement for the quick personal dissemination of agricultural information. It has also had the sincere flattery of imitation in many other countries. Like the Hatch Experiment Station Act of 1887, it was extremely helpful in unifying the aims and objectives of State and Federal agricultural workers. For it threw a network of such workers into every county, locality, and farm, to bring to farmers the latest useful information as it was developed.

Specifically, the act provided for cooperative work with the land-grant colleges in giving instruction and demonstrations in agricultural practices and home economics. The Federal funds appropriated had to be matched with funds provided by the State, county, college, local authority, or individuals--hence farm organizations could do they matching, if they wished, and they sometimes did. This raised knotty problems later when these local units became national in scope and policy. The Capper-Ketcham Act of May 22, 1928, and the Bankhead-Jones Act of June 29, 1935, as amended, provided further funds and extended this work to Hawaii.

Houston's fourth annual report was dated November 15, 1916. It truthfully opened thus: "The half of agriculture embracing the marketing of farm products, rural finance, and rural organization has strikingly occupied attention during the last three and one-half years." Specifically,

there had now been helpful Department activity in the field of cotton futures exchanges, rural credits, marketing, warehousing for agricultural commodities, highway construction, rural adult education, and forest and water conservation. Houston was plainly breaking over into new fields.

The Cotton Futures Act, the Grain Standards Act, and the Warehouse Act were all approved August 11, 1916. The first Federal Farm Loan Act and the first Federal Aid Road Act were likewise approved in 1916. The latter provided Federal aid for rural post roads, and roads and trails in the National Forests; it was only a beginning, but it was a beginning. Houston had also separated the Office of Farm Management from the Bureau of Plant Industry and, of course, the Smith-Lever Act had taken out the extension and farm demonstration work.

Until passage of the Federal Farm Loan Act, farmers had had no source of Government credit for any purpose. At first they needed little credit. But with commercial farming came pressure on the land, long-distance transport, far-distant markets, increased mechanization requiring higher capital investment, hired labor, commercial fertilizers, tenure problems, regional specialization, international competition, and a new financial environment. Hence there arose urgent need for more and cheaper credit than individuals, banks, mortgage companies, and life insurance concerns could and would provide——credit tailored to farm needs.

The new act authorized the establishment of 12 Federal Land Banks to make long-term, farm-mortgage loans, not in excess of half the appraised value of the farm, with provisions for amortization. These banks came under Treasury supervision and their stock was mainly held by the Government, but this investment eventually paid off. By this legislation farmers were protected from high interest rates, exorbitant renewal costs, and

the ever-present menace of foreclosure. Emergency crop loans were first made by the Government in 1918; this was done to increase the production of wheat and other war crops.

Secretary Houston mentioned the importance of stabilizing agricultural production. He said little or nothing about increased European demand for our farm products. But he did write: "It is highly desirable, therefore, further to broaden the areas for the staples as far as experience and sound economicsmay warrant." He probably saw that the areas would be broadened much further than that.

Secretary Houston's fifth annual report was dated November 16, 1917. It opened ominously: "When on April 6, 1917, the existence of a state of war with Germany was declared by Congress, this country was facing an unsatisfactory situation in respect to its supply of food and foodstuffs." In 1916, the production of our leading cereal crops had been relatively small. It was felt that adverse weather conditions would decrease the 1917 wheat crop. The 1916 potato yield was poor. But potatoes and wheat were of prime importance in time of war.

The Department immediately took steps to allay apprehension, promote economy and thrift, secure fuller conservation of foods and farm products, and ensure increased production of essential agricultural commodities. In January 1917, the South had been entreated to produce a surplus of foodstuffs. A conference of State and Federal agricultural officials was held in St. Louis April 9-10, 1917; the editors of farm papers were called in on April 11. The agricultural situation was thoroughly surveyed, discussed, and analyzed.

Houston wrote that "The Nation was fortunate in having had in existence for many years, for the purpose of promoting scientific and practical agriculture, its Federal Department of Agriculture, and a department of agriculture and a

land-grant college in each State, as well as great farmers' organizations."

On April 5, 1917, Mr. Herbert Hoover was invited by the Council of National Defense to return to this country and advise about the handling of both domestic food supplies and those intended for shipment to Europe. The Food Production and Food Control Acts were approved May 20, 1917, and Mr. Hoover became head of the new Food Administration which, in World War I, was an agency entirely separate from the Department of Agriculture.

In fact, a very sharp distinction was drawn between the functions of the two. All activities for war purposes that added up to nothing more than an extension of the Department's normal activities were to be handled by it. The Food Administration was to undertake problems concerned with distribution and consumption, exports and imports, prices, and the purchase, requisition, and storage of farm commodities, or related activities.

On April 18, 1917, Secretary Houston had transmitted to the Senate his proposals for increasing the production, improving the distribution, and promoting the conservation of foods and farm products. The Food Production Act, approved largely in response to his suggestions, granted what then seemed very large sums to the Department for such purposes as the control and eradication of livestock diseases; the procurence, storage, and supply of seeds; the prevention, control, and eradication of harmful insects; the rapid development of the Extension Service; a survey of our food supply; and the improvement of the Department's information work.

Actually the $4,348,000 granted by this act resulted in a very rapid growth of the Extension Service. It sprang into new prominence as the most useful agency ready at hand through which the Government might promptly communicate its requirements to farmers. Hundreds of county agents appeared over night where none had been before.

A special farmers' bulletin appeared on The Small Vegetable Garden, and there was a drive on for more gardening, as in World War II. Home economics workers instructed housewives in the canning, drying, salting, preserving, and storing of foods of all kinds, using practical demonstrations as their teaching technique. The women of the Nation were enlisted in a food-saving campaign, their attention being sharply called, on March 3, 1917, to the doleful fact that at least $700,000,000 worth of food was annually wasted in the United States. Arrangements were made to supply at cost 10 million cans to the women of southern counties as an inducement to canning fruits and vegetables.

Efforts were also made to stimulate farm production and to maintain skilled farm labor on the land. The farmers responded nobly, as they always do in wartime, and their income rose accordingly. As Secretary Houston wrote in the final paragraph of this report:

"The farmers of the Nation have always shown their devotion to the cause of freedom and have not been slow to respond to their country's call for men and means to defend its rights. They will not submit to Germany's dictation. They will not permit her to impose illegal restrictions on their privilege of going freely to any part of the world where they have a legal right to go or of sending their products into the open markets of the world. They well realize that the dictum of Germany that this country should not send its ships at will to the ports of the great nations of Europe was not only unwarranted and impertinent, but also that, if it had been acquiesced in, it would have involved them very particularly in great financial loss and suffering."

Whether the farmers thought that way or not, and most of them probably did not, they stepped up production, made money, and got into a pretty mess of trouble for the post-war Government to solve.

Secretary Houston explained that this struggle was being "waged to determine whether the world shall be dominated by the will and policies of medieval despotisms or by those of free and enlightened modern States, and whether the mere right of might or the rule of law shall prevail in the world." That was the proper thing to say at the time but ultimately we got Hitler and Mussolini. However, farmers could be depended upon to produce, save, and send their sons to fight whenever we were at war, and the struggle was bound to come to a satisfactory conclusion.

In 1917 the following were the line agencies of the Department: Weather Bureau, Bureau of Animal Industry, Bureau of Plant Industry, Forest Service, Bureau of Chemistry, Bureau of Soils, Bureau of Entomology, Bureau of Biological Survey, Bureau of Crop Estimates, Office of Public Roads and Rural Engineering, Bureau of Markets, Division of Publication, the Insecticide and Fungicide Board and the Federal Horticultural Board. There were the following staff agencies: Solicitor's Office, Disbursing Office, Library, Chief Clerk's Office, Mechanical Superintendent's Office, States Relations Service, and Offices of Information, Inspection, Exhibits, Forest Appeals, and Farm Management.

Like American agriculture as a whole, the Department of Agriculture was much changed by World War I. In dollar terms agricultural production and exports mounted dramatically. New efforts were required to increase food production, reduce wastes in processing and distribution, and provide farm labor to replace that in the armed services. The programs and personnel of the Bureau of Markets and the Cooperative Extension Service underwent great expansion.

The Department acquired prestige by assuming leadership in calling conferences of agricultural interest groups and associations.

These groups naturally began to think more and more in terms of governmental policy and of broader peacetime services the Department might render. The National Agricultural Advisory Committee was appointed officially to advise the Department and the Food Administration. In the long run there emerged tremendous readjustment problems dealing with prices, debts, land use, inflated land values, and soil wastage. All this broke in on Houston's thoughtful efforts to realign the place of agriculture and the functions of the Department in the American economy.

The year 1898 was the last in which agricultural exports comprised as much as 70 percent of our total exports. Thereafter the farm share of our exports generally decreased, even while the actual volume of exports increased. Finally, the volume of trade also changed. The turn of the century brought a decline in farm exports and, in 1910, the level was again where it had been in 1880. Meanwhile our own imports of raw materials for manufacturing trebled, but they came largely from non-European sources.

The end result was trade imbalance. Europe therefore began to turn to other markets for raw materials and agricultural products--to Canada, Argentina, Russia, Australia, and New Zealand. Some countries began to erect tariffs to deny our goods entrance. The spread of industrialization stimulated population growth in manufacturing countries to a point where it was beyond their capacity to sustain their people by means of their national agriculture. People in industrialized countries, including our own, came to depend more and more upon foreign trade.

Our manufactures grew up behind tariff walls, hence price levels far higher than those obtainable in agriculture could readily be maintained. Thus industry was partly exempted from the world competition which agricul-

ture had to meet with its own resources, unaided by Government. Furthermore, farmers being highly individualistic producers, found it difficult to cooperate in the formation of national policies unless some government agency assisted them in planning. What better agency than the Department of Agriculture?

Fortunately for the Nation and the world the war had been brought to "a satisfactory conclusion" before November 15, 1918, when Secretary Houston submitted his sixth report. Therein he thanked the farm people and the State and Federal agricultural workers for the too little known and appreciated part they had played in delivering the world from despotism. He also expressed his gratitude to farm journal editors and farm organizations. Now to pick up the pieces and see where we were.

Secretary Houston thought that we must for some time continue to raise more cereal grains than we required domestically, because impoverished Europe would require much food from us, at least until normal trade relations were reestablished with Australia, India, and the Argentine. Ultimate competition from these quarters was inevitable. So our agricultural agencies must be improved, that we might intelligently execute such plans as seemed wise after full discussion. In short, we must have a rationally planned agricultural industry fitted securely into the national economy.

Secretary Houston's seventh and final annual report was submitted under date of November 15, 1919; however, the next annual report, submitted by Secretary Meredith, largely covered Houston's period in office This last Houston report opened thus:

"America during the war helped to save Europe and to preserve civilization by making available to the Allies, through increased production and conservation, large supplies of foodstuffs. But for this contribution, it is difficult to see how the Allies could have waged the war to a victorious conclusion." If this sounds to you like something you have heard before, that is just what it is, and you no doubt heard it after World War II.

A record acreage had been planted by 1918, and crop yield had been stimulated in all practicable ways. Every Department agency was pushing the work. But yields never increased over peacetime levels as they did in World War II when the new acreage tilled was negligible. During World War I the interest in farm land increased, land speculation began, farm values shot up miraculously, and farmers were tempted to undertake top-heavy mortgage indebtedness.

Now the land-settlement problem had been studied by the Department for some time, for it recognized that much land had already gone into cultivation that should have been reserved for forests and wildlife. Rural health and sanitation were additionally advanced and both extension and home economics work made marked progress.

The cessation of hostilities brought no immediate improvement in Europe. Revolution broke out, discipline was relaxed, morale was low, idleness and unemployment prevailed, and anarchy reigned in some sections. But, in 1919, it was generally felt that civilization could be restored if Europe could be fed. That also happened again almost 30 years later. In 1919, American farmers planted a far greater acreage than in any previous year, and the acreage in cultivation was already higher than prewar. They produced plentifully but Houston believed they could produce still more.

Yet he warned against overproduction. He doubted the necessity for immediate and rapid farm acreage expansion. He observed that the demand for farm products was not so elastic as that for manufactured articles, and that equilibrium must be maintained between rural and urban industry. Inelasticity of demand for farm products could lead to market glutting and serious loss. The objective should rather be a planned, steady, stabilized flow of agricultural products to market. After all farming was a business, it must pay, and it could pay only if carefully planned. "It would be unwise to stimulate a large increase in the per capita farm acreage at the present time"; so held Mr. Houston.

Instead American agriculture should consolidate the gains already made and prepare for the world competition soon to be expected. The services of the most experienced and judicious agricultural leaders should be utilized in determining where, when, and how to develop and bring into cultivation both public and private unused land. The possibilities of utilizing land not now cultivated should be determined by a careful scientific survey. The Secretary was, in fact, so abreast or in advance of the times, and so sold on planned agricultural land use, as to write:

"Distinctive regions should be fully studied with a view to assembling all existing data on productivity, cost of making the land available, present tenure and prices, type of agriculture best adapted to the conditions, possible returns, minimum size of farms capable of supporting families in reasonable comfort, minimum equipment needed at the beginning of settlement, sources of credit, and marketing and transportation facilities."

He was convinced that the scientific possibilities of economic land use should determine land utilization. Too much unwise land

settlement was already going on. Prospective settlers should have more scientific guidance. Furthermore, Secretary Houston went on, "the increase of tenancy has become the subject of deep concern to thoughtful students of rural conditions." This increase was prejudicial, because tenants stayed on farms only a short time as a usual thing, and they naturally manifested tepid interest in farm improvement. Unwholesome land exploitation resulted. Thus the problem of tenancy was tied to that of soil erosion.

During 1918, committees of experts from outside had advised on the Department's work in farm managment and on agricultural economics. In their report they approved cost-of-production studies, farm-life studies, studies of farm organization, farm financial arrangements, farm labor, agricultural history and geography, demonstration work, and "land economics (land utilization), involving the consideration of land resources, values, ownership and tenancy, settlement and colonization, and land politics." The Chief of the Office of Farm Management was tossed the onerous job of supervising these investigations.

Secretary Houston concluded his final report by listing the new agencies established and the new laws approved during his term. Some of the principal items that were on this list, and others which were not, are these: Cooperative Extension Act, Cotton Futures Act, Grain Standards Act, Warehouse Act, the parts of the Federal Reserve Act which authorized new types of rural credit, the Federal Farm Loan Act, the groundwork for the Packers and Stockyards Act, The Standard Container Act, and the Vocational Education Act. The last, approved February 23, 1917, was given to the Department of Interior for enforcement.

The Grain Standards Act provided for uniformity in the grading of grain by authorizing the Secretary of Agriculture to establish

standards of quality and condition. The Cotton Futures Act placed a tax of 2 cents on each pound of cotton involved in any contract for sale for future delivery upon an exchange, unless specified types of contract were used. The Warehouse Act provided for the licensing by the Secretary of Agriculture of warehouses in which agricultural commodities were stored for interstate shipment.

The Migratory Bird Treaty Act was approved July 3, 1918. It prohibited the hunting of migratory birds, and their shipment, except under regulations promulgated by the Secretary of Agriculture. The Virus Serum-Toxin Act was included in the Agricultural Appropriation Act of March 4, 1913. It required the Department to license establishments for the manufacture of viruses, serums, toxins, and so on, for animal use, and to certify their quality.

Houston established the Bureau of Markets, attached directly to his own Office, to carry out the intent of Congress as expressed in the appropriation act of 1913-14, that more information on marketing and distribution of farm products be procured and diffused. Under the leadership of Charles J. Brand it rapidly became one of the spearheads in the vigorous attacks on economic and social problems, and advanced through several organization steps to become, in a few years, one of the Department's outstanding agencies.

During Houston's administration also the Bureau of Crop Estimates, formerly the Bureau of Statistics and Crop Estimates and, earlier still, the Bureau and the Division of Statistics, was created. So were the Office of Farm Management and Farm Economics, the Office of Home Economics, and the Cooperative Extension Service. Department publications were reclassified and the distinguished Journal of Agricultural Research was established under a committee headed by Karl F. Kellerman of the Bureau of Plant Industry.

Secretary Houston saw the necessity for greater centralization within the Department and set up a number of staff agencies to effect integration. Originally the Department consisted largely of independent research sections and divisions which generally pursued their own ways. Later, when the bureaus were organized, they still tended to have very considerable autonomy, and unified departmental policy proved difficult to define. Houston gave impetus to the establishment of institutional or staff agencies to unify the various functions of the line agencies.

Secretary Houston held that a broad survey of rural conditions was urgent. A comprehensive but flexible farm program should be developed. The work of the many agricultural agencies should be more closely coordinated. But "a program made by any one element would be partial and unsatisfactory. We should have a meeting of minds of all those directly concerned, of farmers, of agricultural leaders, and of businessmen." The Secretary urged the President to call a national agricultural conference from which he hoped a permanent rural life commission would evolve.

Our World War I Secretary of Agriculture was a sort of one-man New Deal all by himself. The record speaks eloquently. What he might have done for American agriculture, had not his work been interrupted by war, it is interesting to speculate. Certainly he would have succeeded in preventing many acute maladjustments which caught up with farmers a decade or so later, and added enormously to their difficulties and perplexities between 1921 and 1933.

In summary, our grain acreage was increased about 12 percent during the World War I period. The number of animal units on farms, poultry included, increased 16 percent, meat production rose about 23 percent, and the land area in crops expanded 13 percent. This meant 40 million more acres in production, many of which should never have met the plow. For a year or so after the war our agricultural exports accounted for the production of some 80 million acres.

But inflation had been drastic, farm land prices had exceeded all bounds of normal value, the costs of farm production had steadily mounted. Gross income from agricultural production rose from 7 billion dollars in 1914 to almost 17 billions, the peak, in 1919. But swift reaction in 1920 took this total down to 15½ billions and, with minor ups and downs, a broad steady drop continued to the low of 5 billions in 1932.

In actuality the farmers had about three really profitable years in the World War I period. But neither their prices nor their profits were at all high as compared with those of industry. Yet they were sufficient to stimulate increased plant and output, and to foster an uneven, scientifically faulty expansion which threw things utterly out of gear when peace came.

Essentially all progress in farm adjustment made before World War I was lost during that war. Moreover, agriculture being a biological industry with a slow turnover that cannot be quickly accelerated, it is even more difficult to readjust than is urban industry. It takes at least a year and usually several years to revise a crop system and vary the numbers in herds and flocks. Thus World War I was an economic turning point for American agriculture.

Loss of our customary European market for wheat, pork, and cotton hit our agriculture vitally and suddenly. Financial and trade relationships with Europe were altered more in a half dozen years than they would normally have been in two generations. At the same time agriculture had been similarly stimulated and production patterns distorted in Canada, Argentina, Australia, New Zealand, and elsewhere. Keener competition hit our agriculture right while it was trying to evolve new trade relationships.

In a certain sense 1919-20 closed a chapter in our farm history. It had begun in the 1890's with rising prices, expansion, and prewar progress in a world of essentially free enterprise. Following Houston, agriculture had to be entirely reoriented in our economy to fit the pattern of vanished foreign markets, falling

prices, and contraction of the farm enterprise. At the very same time an epochal change from horsepower to mechanization was well started. Secretary Houston's successors had to face these new and, insofar as America was concerned, unique problems and, if possible to solve them. That was no mean undertaking.

Athough it is true that a turning point came with Secretary Houston--just as another did with Henry A. Wallace 20 years later--it must not be supposed that departmental policy broke sharply with all tradition and abruptly changed in either case. It did not. In both instances there had been emerging issues which were fully understood by some members of the Department's professional staff, but Congress had not yet passed the legislation that could alone bring the Department fully into action regarding these issues.

IX — Aftermath of World War I

Thus it was that Secretary Houston ushered in the second dynamic period of the Department's history. After a long period of relative placidity and futility, the first such period started under Commissioner Colman, gained momentum under Secretary Rusk, and continued during the earlier years of Secretary Wilson. Then a static period supervened. Secretary Houston's dynamic period carried over into the administrations of Secretaries Meredith and Henry C. Wallace. Then a relatively quiet period of unification and consolidation lasted until the New Deal.

The day following Secretary Houston's resignation to become Secretary of the Treasury, February 2, 1920, Edwin T. Meredith (1876-1928) became Secretary of Agriculture. He served only until March 4, 1921, he signed but one annual report, that for 1920, and his term was essentially a part of Houston's.

Meredith was born on a farm near Ames, Iowa. He early began to assist his grandfather on the Farmer's Tribune, which journal became his own property as a wedding present. In 1902, he founded Successful Farming. In 1922, he purchased the Dairy Farmer, and also founded Fruit, Garden, and Home which, in 1924, he renamed Better Homes and Gardens. Meredith borrowed much money to expand his journals and ultimately repaid it all. He was extremely successful and, in later life, he loaned much more than he had ever borrowed to country boys trying to get an education or a start in livestock growing.

Meredith was a passionate propagandist for advertising. But he promised to make good any losses sustained by any of his readers,

if advertisements in any of his journals proved dishonest or fraudulent. He was active in advertising clubs, an ardent prohibitionist, a lusty advocate of farm relief and the 4-H Clubs, and he founded the USDA Clubs in seventy or eighty American cities and towns, comprised of employees of the Department there stationed. He was at various times Director of the Chicago Federal Reserve Bank, a member of the World War I Excess Profits Board, President of the Associated Advertising Clubs of the World, and of the Des Moines Chamber of Commerce, and a director of numerous business and financial institutions.

His single annual report was concerned very largely with work done under Houston. Farmers were still being congratulated upon their fine wartime services, but they were also admonished that they now faced a declining market, that the value of land would shrink, and that there simply was no simple solution for the complex problems about to face them. Indeed many of the problems had already appeared.

Not only were world conditions chaotic, but the American farm industry was seriously inflated. As an instance, suppose we survey briefly what had happened in the Secretary's home State, Iowa. Farm land there was originally purchased for from 50 cents to $5 an acre, at little profit to the State. During the early years the initial crops paid for farm buildings and other improvements, creating a heavy demand for wood. Selling this wood yielded New England, Michigan, and Minnesota excellent profits for two decades. Then their timber was exhausted and cut-over waste land appeared in return for their contribution to the Midwest.

Next the talented young folk moved on from Iowa's farms into the cities, leaving agriculture to others. The crops of the next period provided capital investment to build the huge wheat farms of the Great Plains. But the wheat was exported to Europe on credit, the loans defaulted, and

and profits vanished. By this time World War I formed part of history and the farmers faced cultivation of heavily mortgaged and much impoverished soil--for in too many instances the drive for wheat had broken sod that should never have been plowed. Terrific soil erosion followed.

Next in train came mortgage foreclosure. Big eastern banks and insurance companies took over square miles of farm land. Then the profits went to build office buildings, apartment houses, and other urban structures. By this time Iowa, like many other States, was sorely afflicted with erosion, lowered soil fertility, absentee ownership, and run-down, worn-out, obsolete farm buildings. It was even beginning to produce lower grade human beings who could not get to college! In the long run the Nation lost incredibly by such aimless exploitation of our natural resources.

The chickens had come home to roost when Secretary Meredith began to look ahead to see what was coming. Obviously more studies must be made of farm prices and production costs as related to general price trends, production trends, intentions to plant or to breed, and effective demand. More re-evaluation was in order. The very first impulse of farmers who were hit hardest was to turn to the agency which had spurred them on during the war--the Government.

The Department sought to respond by immediately undertaking more work on marketing, the provision of better foreign market information, and improved crop estimates and livestock reporting. At the same time it sought new ways of lowering farm production costs. But that was insufficient.

Farm financial problems loomed. Land-value deflation was imminent. The price of land had risen far too high as acreage underwent abnormal wartime expansion. From the longtime view this expansion was unwise; it hurridly and heedlessly compressed the growth of decades into a few years. Meredith warned farmers realistically that they faced tough going from now on.

In 1920, only 26.3 percent of those gainfully employed were engaged in agriculture. The average equity of farm operators in the land they cultivated was 46 percent. The foreign market for farm products was in rapid decline, artificial wartime prices had collapsed, and longtime agricultural depression began. With minor variations on the same old theme it lasted into the 1930's. At the same time the use of tractors and other large-scale equipment rapidly increased on farms, the theory seeming to be that if you produced a great deal and lost money on it you would be much better off than if you produced only a little and lost on it.

The net income of farm operators from current operations was $9,249,000,000 in 1919. It dropped to $6,778,000,000 in 1920. It was destined to slide as low as $3,603,000,000 in 1921, and that was less than it had been in 1913.

During Meredith's brief term the departmental information work was further consolidated and a Director of Information, Edwy C. Reid, was appointed. Henry C. Taylor was Chief of the Office of Farm Management and Farm Economics. The Farm Bloc assumed organized form in Congress.

The Packers and Stockyards Act was enacted August 15, 1921. It regulated the business practices of packers who operate in interstate commerce, of stockyard owners or operators, and of commission merchants and others operating on yards posted by the Secretary of Agriculture in compliance with the act. It prohibits unfair, unjustly discriminatory, and deceptive practices and devices. The law was for some time enforced by a Packers and Stockyards Administration, but later by the Bureau of Animal Industry.

In his report, Secretary Meredith also observed that farmers were not getting a fair return. He told them they must prepare to adjust themselves to drastic changes in world economic conditions; he could not tell

them how to do that, nor could the Department aid them much, except with kind sympathy and good advice. For now, even in a year of bumper crops, farmers could lose money if prices dropped. The day when bumper crops inevitably meant farm prosperity were gone. Hence it seemed that some means should be devised of carrying over to periods of low production the surpluses yielded in high-production years. Here was the germ of the Ever-Normal Granary idea, but there was no possibility of its maturing now.

Meredith wrote: "Much loose thinking and many wrong conclusions are based on false impressions concerning the profitableness of farming. The increase in farm products during the war was inevitably transitory. Moreover, measured in purchasing power, they shrank rapidly as a result of the rise in general commodity prices." The Secretary evidently wanted to discourage too many from entering agriculture. For the farmer's highly competitive business was now wholly disorganized, and farmers themselves lacked effective means to prevent losses. The Secretary strongly advised against the settlement of new areas.

He also held that it was necessary to increase the pay scale of the Department's scientific and technical workers, if the best brains in the country were to be focused on the farmer's mounting problems and perplexities. Improved research facilities were also deemed essential.

During World War I Department appropriations naturally mounted. Whereas they were $37,365,506 in fiscal year 1917, they were $73,372,284 in 1918. But they had mounted to $151,540,989 in 1921, reappropriations and borrowing authorizations included. The appropriation for the Department's regular work in 1921 was $34,781,884; however, it administered large sums for other purposes--the Federal Road Act, Extension work, and funds going to the State experiment stations under the Hatch and Adams Acts.

The latter act became effective March 16, 1906, and provided additional funds for the State experiment stations, funds merely sluiced through the Department. In 1921, the Department spent approximately 9 million dollars on scientific research.

On December 12, 1921, Howard M. Gore, destined later to be Secretary of Agriculture, became a specialist in livestock marketing in the Office of the Secretary, but was paid from Packers and Stockyards funds. He had previously served on a per diem basis as a livestock appraiser in the Bureau of Animal Industry.

Much could be said here regarding the immense growth of scientific research in the Department from the beginning of Secretary Wilson's term until this time. But this has been covered in detail in the present writer's Two Blades of Grass, which is a history of the Department's scientific achievements. A diffuse mass of detail on the same subject will be found also in A. C. True's History of Agricultural Experimentation and Research in the United States, 1607-1925; this is Department of Agriculture Miscellaneous Publication No. 251. These will have to suffice.

On March 5, 1921, Henry C. Wallace (1866-1924) became Secretary of Agriculture by appointment of President Harding. He was the father of Henry A. Wallace and the son of old Uncle Henry. Born at Rock Island, Ill., he attended Iowa State Agricultural College, but interrupted his education to take over management of some of his father's tenant farms. He then married, settled down, and began to contribute to farm journals.. His writings attracted the attention of Director Henry of the Wisconsin Agricultural Experiment Station, who insisted that he return to Iowa State and complete his education. This he succeeded in doing by 1892.

The feat was performed despite heavy family obligations and limited means. Then a few months after he graduated, Wallace was placed in charge of dairying at Iowa State by Prof. "Tama" Jim Wilson. In the spring of 1895, Wallace and his brother John entered farm journalism. They became associated with Wallace's Farmer, founded by their father. Wallace was long identified with organizations of farmers and livestock growers.

He was the first member of his family to hold political office. As Secretary, his principal interests were improved marketing systems, the attempt to adjust farm production to current consumer requirements, conservation, and support of the McNary-Haugen bill. Some say that the corrupt Harding Administration proved too much for this sincere and serious man, with his high integrity, and that he died broken-hearted. His funeral was held from the White House during President Coolidge's first term.

In his first annual report, for fiscal year 1921, Secretary Wallace frankly recognized the dangerous nature of the farmer's position, with overexpanded acreage, inflated land values, and an uncertain market suffering from industrial depression confronting him. He said that the farmer produced on faith and took great risks, and that his 1920 crops had been turned out at the highest cost in history. Yet he had to sell them for what he could get; this disproportionately reduced his income. In other words, farmers were then producing surpluses which they could not sell, while there were hungry people abroad who could not buy. This situation was temporarily and most precariously tided over by huge loans we made to foreign nations, subsidizing their consumers to buy our goods.

The farmer faced excessive charges on all side. Transportation rates, like land values and rents, were high. His fixed charges were excessive nor, when land values began to decline, did his mortgage principal and interest show the slightest disposition to shrink. His difficulties were now a matter of national concern, if that was any help to him. Secretary Wallace said so.

But the unprecedented drop in prices now forced many farmers to the wall. Others were forced to borrow. Secretary Wallace believed that existing farm credit sources were still ill-adapted to farmer needs. Congress had authorized the land banks to loan more freely, but this the Secretary regarded as symptomatic treatment for a deep-seated ailment. Often further loans merely compounded the farmer's financial problem.

Actually World War I had provided only a transitory, highly illusive salvation for the farmer when greatly improved scientific cultural methods, advancing technology, and a dwindling export market threatened him. Now unwise land speculation offered a further menace to his security. Yet the very terms of his salvation tempted him to continue acting unwisely. In addition, the land, water, and forest exploitation of long generations before him rose to plague him in his adversity. For yet a little while those insecure foreign loans put off his evil day, but agricultural depression was actually rampant throughout the socalled prosperous latter 1920's.

Secretary Wallace's report for 1921 announced the consolidation of the Bureau of Crop Estimates and the Bureau of Markets, with the offices that had been studying farm management and agricultural economics, to form a new unit, the Bureau of Agricultural Economics. Thus one of Houston's dreams materialized. Marketing was now regarded as an integral part of production.

However, research in the natural sciences was still regarded as basic and Secretary Wallace appointed a Director of Scientific Work. This is another step Houston would probably have approved. Work in the field of home economics assumed ever-increasing importance. Wallace recommended intensive, low-cost methods to farmers, and warned sternly against opening new land to cultivation.

The Graduate School of the Department of Agriculture was officially established in 1921, with Secretary Wallace's blessing. It offered 10 courses, had a faculty of 10, and it enrolled 213 students. While, in accordance with the provisions of the act founding the Department, and subsequent legislation, it occupies space in Department buildings, and uses its offices, conference rooms, and laboratories for teaching purposes, it derives its entire financial support from fees paid by students. It holds evening classes.

Today this Graduate School has a faculty of 200, it offers more than 200 courses, and its student enrollment is from 5,500 to 6,000. First choice is given to Department of Agriculture employees, next to employees of other Government agencies, then outsiders are accommodated if there is room in classes. The school's faculty is mainly drawn from the vast reservoir of professional talent available in Federal Government agencies, and is of high calibre. Here we have a fine combination of working and teaching.

While the Graduate School does not confer degrees, its credits are universally accepted by accredited colleges and universities. This is in every way a unique and an extraordinary institution. It is as important as an intellectual spur to self-improvement as it is from the standpoint of adult education. It improves public service and is an intellectual ferment of the first order.

Reporting for fiscal year 1922, Secretary Wallace frankly stated that farmers were still doing poorly. Agricultural commodities were selling at bankruptcy prices, though other products were high. Hence farmer income suffered the deepest cut of all, and farmers could live only by practicing the most rigid economy. There were few hopeful prospects. The War Finance Corporation had saved many farmers from receivership, and the farm land and joint-stock banks advanced still more on mortgages. But a time of reckoning was at hand.

Enforcement of the Packers and Stockyards Act had brought many new problems of control into the Department's field. This act was designed to establish free, open, and competitive conditions, but enforcement was still offering some difficulties.

In 1922, President Harding called a National Agricultural Conference in Washington, The farm surplus had become a critical problem. The conference debated learnedly and adopted the customary ritualistic resolutions. Its accomplishments were slight.

It began to be felt strongly that governmental supervision was needed over grain exchanges, and that additional credit legislation would be highly desirable. On September 21, 1922, the Grain Futures Act was approved to control transactions in grain futures. It was amended in 1936, and became the Commodity Exchange Act.

On November 9, 1921, the Federal Highway Act had been approved, enormously increasing the ostensible appropriations and the responsibilities of the Bureau of Public Roads. It authorized the Secretary of Agriculture to direct the Secretary of the Treasury to make payments to the States, on a specified basis, to be used in the construction of public highways.

Henry C. Taylor became Chief of the Bureau of Agricultural Economics on July 1, 1922. It had been formed, as indicated earlier, by consolidating the Bureau of Markets and Crop Estimates, as combined in 1921, with the Office of Farm Management and Farm Economics.

Secretary Wallace's final report covered fiscal year 1923. He stated that agriculture had improved somewhat, but that there was a mighty bad wheat situation, for that competition with Canada, the Argentine, and Australia was now a reality. They had all increased wheat exports during the war and preferred to maintain high production. There were also far too many hogs and a price decline had ensued. Farmers were getting more deeply in debt and they found taxes and interest very difficult to raise. More were in financial difficulties; more lost their farms. A drift to the cities began, for rural morale was low.

It was imperative, Wallace maintained, that wheat acreages be reduced and diversified cropping be more widely instituted. It might help if a governmental agency could be created to buy and export wheat and other farm commodities of which we produced exportable surpluses. Thus we might secure for them an exchange value equal to that of prewar times. Here is the germ of the two-price system, one for domestic and one for foreign sale; it directly reflected ardent discussion among farm pressure groups in those days.

The Secretary continued that farm products must somehow be put on a price level with other commodities. He now seemed to be thinking in terms of parity. Of course, if farmers could readily control their production to match market requirements, as industry so readily could, that would solve the problem. Yet farm production should not be permitted to shrink to the point where it menaced our future. Here is another hint of Henry A's Ever-Normal Granary.

It was still hoped that the Department's studies in agricultural economics would miraculously help farmers help themselves, though its publication of statistics had failed to accomplish this much earlier. World markets had been analyzed and livestock reporting was said to be more accurate than ever. But there was increased demand for information about the agricultural situation in general. Hence the Market News Service had been expanded and a radio news service was being undertaken. Cooperatives were under further study. The Office of Motion Pictures, the Office of Exhibits, and the Administrator of the Grain Futures Act now reported as separate units.

The States Relations Service was dissolved February 26, 1923. There came forth these independent units: Extension Service, Office of Experiment Stations, and the Bureau of Home Economics. The last, under Dr. Louise Stanley, embarked on a program of research which finally embraced foods, textiles, home equipment, and nutrition problems in their broad social and economic aspects.

There had been much outside agitation for the establishment of a Bureau of Home Economics for some years. It finally became emphatic and persuasive. Secretary Wallace authorized the Assistant Secretary to tell the August 1922 meeting of the Home Economics association that this step was seriously contemplated. In November of the same year the Director of Scientific Work discussed plans for transforming the Office into a Bureau of Home Economics before the Association of Land-Grant Colleges. Secretary Wallace called a group of experts in the home economics field to advise him in June 1923, and the following July 1, the Bureau or Home Economics was established.

Secretary Wallace died in office October 25, 1924. Assistant Secretary Howard M. Gore (1877-1947) immediately became Acting Secretary. He was appointed Secretary by President Coolidge and served from November 22, 1924 until March 4, 1925, when he resigned to run for Governor of West Virginia.

Mr. Gore was born on a West Virginia farm and lived on farms until 1918, becoming a stock breeder specializing in fine beef and dairy cattle and sheep. He attended the University of West Virginia and reremained prominent in livestock circles throughout his life. He was a member of the American Farm Bureau Federation's Committee of Fifteen which promoted better methods of marketing livestock, President of the West Virginia Hereford Breeders Association and of the West Virginia Livestock Association, and a life member of the International Livestock Association.

As noted earlier, he became connected with Packers and Stockyards Administration and then was appointed Assistant Secretary, serving from September 17, 1923 until he became Secretary after Wallace's death. As Secretary his interests were clubs for farm boys and girls and livestock production. After resigning, he was Governor of West Virginia, 1925-29, and the State's Commissioner of Agriculture, 1931-33. He was serving on the West Virginia Public Service Commission at the time of his death.

The volume containing the annual report for fiscal year 1924 was prepared under the direction of Secretary Wallace, and Gore transmitted it as Acting Secretary. Ever since the beginning of Henry C. Wallace's administration, materials for the report, representing top policy as the concensus of expert opinion the Department over, have been assembled by the same individual, English-born Arthur P. Chew.

The harvest was reported as excellent and the general condition of American agriculture was said to have improved. The wheat situation was reported better, cotton steady, vegetable acreage increased, but the livestock situation bad. The foreign market was all but wholly lost and slight hope could be entertained for its recovery, an unpalatable truth indeed. But depression was said to have struck agriculture in a transition stage just after it had undergone a 15-percent over-all expansion for war purposes. This implied great acceleration in the adoption of new equipment. Prices dropped, tax delinquency rose, and bankruptcy spread. Recovery would be slow and arduous.

All departmental work in agricultural economics was now consolidated and expanded foreign-market information was being supplied. Some measure of legislative relief had been granted farmers, but the credit extensions arranged had not always proved a kindness. Land resources and land tenure conditions were subjects of study. It was felt that future agricultural expansion should occur only on reclaimed land. Improved collateral was becoming available by storage of crops in licensed warehouses. Customary progress was reported in the fields of market news, statistical work, inspection, standardization, and grading, cooperatives, farm management and farm service.

The Bureau of Dairying was established by Act of Congress approved May 29, 1924. The dairy industry had lobbied for the establishment of a bureau of its own to consolidate work in this field. The name was changed to Bureau of Dairy Industry in 1926. The Bureau was organized from the Dairy Division, Bureau of Animal Industry.

The Secretary's report made a point of stating that one-half of the Department's appropriation (nearly 89 million dollars, total)

was expended for authorized regulatory and service work, such as the care of the National Forests, enforcement of meat, food, and drug inspection acts, and so on, and large sums still merely passed through the Department on the way to the States for public roads, experiment stations, and extension work. Less than one-quarter of the sum available for ordinary activities, say 9.7 million dollars, was expended on research. But this 9.7 millions was described as vitally important and as producing huge returns on the investment, hence it deserved liberal support at all times.

It began to seem as if the Department's scientists had outdone themselves. Set to improving yields and lower unit costs of farm production, they had so admirably succeeded as to threaten the land perpetually with bothersome surpluses. The point had come where research must be defended, for there was a tendency to blame it in some quarters for farm ills. Yet the almost incredible unearned increment from the work of the scientists spilled over into many fields other than agriculture, benefiting every industry and every individual in the Nation. City and country alike gained therefrom.

But the monetary returns often were not paid the right individuals or groups. Hence the time had come when scientists felt almost as if they should apologize for their brilliant achievements. They were held culpable for the country's misfortunes. This was because less intelligence had been used in putting scientific knowledge into practice than had been required to develop that knowledge in the first place. We neglected to perfect a science for the intelligent utilization of scientific knowledge and we are afraid of it, of social science, to this day. There was too little, not too much science; we needed then as now vastly more social science.

Nevertheless the Secretary argued that the work of the Department and State experiment station scientists had greatly enriched the Nation. Their contributions were and are stupendous, even considered in purely monetary terms. But the returns are largely payable as social dividends in a generally better standard of health and living, hence are easily overlooked. There is also a broad margin of exploitation of such knowledge by unscrupulous individuals and groups.

By this time the Department's scientific agencies had long since developed literal galaxies of brilliant agricultural research workers. This was true even in the social, as well as in the natural sciences, but there were far too few workers in the former. An astounding reservoir of scientific information had been developed that was of untold value, not only to the agricultural industry, but to the Nation as a whole. The results really were of benefit to all.

It could be proved mathematically that the monetary value of the knowledge developed by the Department's research staff has far exceeded all the money spent on and by the Department even to this day. But immediately depression hit industry and agriculture, there was the increasing tendency to incriminate the scientists. Yet they were culpable only to the extent to which they held themselves entirely aloof from the use made of their discoveries.

Actually there was all along, as there still is, a reluctance properly to support the sciences which tell us how to make scientific use of scientific knowledge, the social sciences. We probably err in holding natural scientists too largely accountable for the abuse of their discoveries. They cannot rightfully be blamed because the tremendous advances they made possible in farm production resulted in gluts, surpluses,

low prices, low-income subsistence farmers, and vast hordes of migratory workers seeking to outrun starvation.

The real blame rests with ou~~t~~r indifference to social science. The scientifically planned utilization of research results would not disrupt agriculture or industry. But that would take research by sociologists, economists, psychologists, anthropologists, and many other scientific specialists. During the New Deal a brave attempt was made in this direction against the strongest and most lethal opposition, but World War II derailed that effort. The problems to be solved by social science research still face us. Their ultimate solution is obligatory.

Among the important laws approved during the period we have just been considering were: Packers and Stockyards Act, Federal Highway Act, Grain Futures Act, Naval Stores Act, Agricultural Credit Act of 1923, Cotton Standards Act, and the act providing for an expanded program of cooperation with the States in fighting forest fires.

The so long disputed and so much maligned Congressional Seed Distribution was discontinued in the Agricultural Appropriation Act for fiscal year 1924. Authorized broadly in the organic act founding the Department, the first specific provision for Congressional Seed Distribution appeared in the annual appropriation act for the fiscal year 1881. There had been many abuses in this free seed distribution and its exit proved generally acceptable to Congress and everyone else.

The above-mentioned Grain Futures Act was approved to control transactions in grain offered for future delivery. It was amended and became the Commodity Exchange Act, June 15, 1936. In its present form it regulates the exchanges, commission merchants, brokers and others who deal in future contracts covering a considerable number of agricultural

commodities, eliminating such questionable practices as: Excessive speculation, use of contracts designed to mislead or defraud customers, wash sales, cross trades, fictitious sales, and dealing by unregistered futures commission merchants or brokers.

The Naval Stores Act, approved March 3, 1923, and amended June 16, 1928, provides for the establishment by the Secretary of Agriculture of official standards for rosin and turpentine, requires that all of these products sold be marketed under or by reference to the standards, and prohibits deceitful practices. The U. S. Cotton Standards Act, approved March 4, 1923, provided for the establishment of quality standards for cotton, forbade the use of other than official standards in interstate transactions, authorized an inspection service and the publication of prices or quotations determined in cotton transactions.

The Agricultural Credits Act, approved March 4, 1923, authorized the chartering of 12 Federal Intermediate Credit Banks to make loans to and discount for production credit associations, banks for cooperatives, State and national banks, agricultural credit corporations, livestock-loan companies, and similar financing institutions. This digests the principal legislative enactments except for those earlier abstracted.

In 1924, the Office of Motion Pictures and the Office of Exhibits were transferred from the Division of Publications to the Extension Service. The Division of Publications then became the Office of Editorial and Distribution Work. But, in 1925, it was consolidated with the Department's Press Service to form the autonomous staff Office of Information with Nelson Antrim Crawford as Director. The change of name appeared in the Agricultural Appropriation Act of 1927. The second Director of Information was Milton S. Eisenhower, now President of Kansas State College.

On March 1, 1925, the Department was constituted as follows, with Howard M. Gore as Secretary and the office of Assistant Secretary vacant. The Director of Scientific Work was E. D. Ball, who had earlier been Assistant Secretary and who was the first scientific director; the Difector of Regulatory Work, Walter G. Campbell; the Director of Extension Work, C. W. Warburton, who wound up his career as Deputy Governor, Farm Credit Administration; Solicitor, R. W. Williams; Library, Claribel R. Barnett; Chief Clerk, R. M. Reese; Administrative and Budget Officer, W. A. Jump, then as now; Press Service, F. M. Russell; Office of Publications, L. F. Haynes; Office of Exhibits, J. W. Hiscox, as at present; and Office of Motion Pictures, F. W. Perkins.

The Department's line agencies and their heads were: Weather Bureau, Charles F. Marvin; Bureau of Agricultural Economics, Henry C. Taylor; Bureau of Animal Industry, John R. Mohler; Bureau of Plant Industry, William A. Taylor; Forest Service, W. B. Greeley; Bureau of Chemistry, C. A. Browne; Bureau of Soils, Milton Whitney; Bureau of Entomology, L. O. Howard; Bureau of Biological Survey, E. W. Nelson; Bureau of Public Roads, Thomas H. MacDonald; Bureau of Home Economics, Louise Stanley; Bureau of Dairying, C. W. Larson; Fixed Nitrogen Laboratory, F. G. Cottrell; Office of Experiment Stations, E. W. Allen; Office of Cooperative Extension Work, C.B. Smith; Federal Horticultural Board, C. L. Marlatt; Insecticide and Fungicide Board, J. K. Haywood. Packers and Stockyards Administration and Grain Futures Administration were operated from the Office of the Secretary with Chester Morrill in charge.

The Fixed Nitrogen Laboratory was a World War I development, sponsored by the War Department but placed in Agriculture. It was a unique and outstanding unit, far superior to anything in its line in the country. It was headed by Frederick G. Cottrell who drew to him gifted young research workers, many of whom are now in responsible positions. Cottrell invented

the cottrell, an apparatus for precipitating smoke particles, when he was quite young. Though it brought an enormous income he settled for just sufficient to make him comfortable and spent the remainder promoting research projects in which he was interested. He himself had a brilliant career in Agriculture, in the Bureas of Mines, and elsewhere. He still lives in active retirement in Palo Alto, Calif.

This to all intents and purposes completes our consideration of long ago. We shall regard the period from 1925 on as modern times. Until 1933, relatively little seemed to be done to cope with a rapidly deteriorating farm situation. Actually, however, the problems that arose received much careful consideration during the terms of William M. Jardine and Arthur M. Hyde. Plans therefore existed as a basis for quick action when the administration changed and Henry A. Wallace assumed office.

Figures on net income to farm operators from current operations offer a ready index to agricultural conditions. From 1910 to 1915 net income ran in the neighborhood of $3\frac{1}{2}$ billions a year. It then mounted to the all-time high, before 1942, in 1919. Thereafter it rapidly declined. After the low of $3,603,000,000 for 1921, there was a rise to the neighborhood of 5 billions in 1923, and the figure stood between 5 and 6 billions from then until 1929. But 1930 brought a sharp reduction to $4,329,000,000.

Even during the 1920's farm income formed a disporportionately low percentage of the national income. You can imagine how things were in rural areas when the farm net income figure dropped to $2,744,000,000, in 1931, and to the all-time low of $1,832,000,000, in 1932. Corrected for inventory changes and wages to hired labor on farms, this figure became $2,285,000,000 for the net income from farming of all persons on farms. The national income was doing low dives at the same time.

It went from nearly 86 billion dollars, in 1929, to a low of a little over 43½ billions. But all during the 1920's the income of the nonfarm population had borne up better than that of farmers who lived in an undersirable depression of their very own throughout that decade. Moreover, they had at all times a disproportionately small share of the national income.

During the 1920-25 period the drastic collapse of agricultural prices, coupled with the rigidity in nonagricultural prices and in wages, created that farm crisis. Tremendous pressure to do something about this was exerted upon both Department administrators, who could not help, and Congress, which could render assistance once thought crystallized. The Farm Bloc assumed new unity at this time.

Early in 1921, Congress created a Joint Commission of Agricultural Inquiry, which completed its hearings and reported in December, thus dramatizing agricultural distress. The Commission recommended the legal strengthening of cooperatives, a system of intermediate credit for agriculture--which was enacted into being later, improved and better supervised warehousing facilities, reductions in farm freight rates, and an expansion of the Department's research, statistical, and foreign-service programs.

The National Agricultural Conference which Secretary Henry C. Wallace called at the direction of President Harding, met January 23-27, 1922. Whereas the Secretary had hinted that more Government aid might be forthcoming to farmers, the President made it quite clear in his opening address that he primarily expected farmers to help themselves. At the instance of George N. Peek, later to be the first Agricultural Adjustment Administrator, the conference went on record for "equality for agriculture," meaning what was later called "parity."

The Conference reported the obvious fact that prices of agricultural products were far below their production costs. It held that Congress and the President should take "such steps as will immediately reestablish a fair exchange value for all farm products with that of all other commodities." This was the Agricultural Adjustment Administration in embryo, and the same demand was repeated elsewhere in the report. Yet at this time it amounted to just a mouthful of words. The Conference also stressed the necessity for adjusting farm production to effective demand, but the only presciption it had to offer was the homeopathic one of acreage limitation by voluntary cooperation.

Peek next joined forces with Hugh S. Johnson, his associate in the management of a Moline, Ill., farm-implement company, to set forth what was essentially an export-control and two-price system for agriculture. It will be observed that the agricultural implement makers who were in the business of farming without taking the risks and suffering the losses, wanted agriculture boosted so that their business would thrive anyway!

This suggestion was put forward as a self-financing proposition, like the first agricultural adjustment legislation. Secretary Wallace and Henry C. Taylor promised to give the plan most serious consideration. The stage was now duly set for the farm-relief campaigns which continued from this time forth.

The first actual drafts of the Peek-Johnson proposals were prepared in the Department of Agriculture, in 1923, by Charles J. Brand who, a decade later, was destined to become coadministrator of Agricultural Adjustment Administration. The drafts ultimately emerged as the McNary-Haugen Bills, the first of which was ready for consideration by both Houses of Congress in January, 1924. Possibly the greatest significance of this twice-vetoed legislation inheres in the fact that emphatic

pressure for its enactment rendered the entire Nation conscious of the farm crisis.

But the land-grant colleges and their economists were as a whole indifferent to this problem. Their leadership was negative, their attitude scoffing, at the time. Indeed, outside of Congress and a small group close to the Secretary of Agriculture, official Washington itself opposed any but old-fashioned, time-tested, orthodox methods of dealing with agriculture. Human nature is conservative and uninclined casually to adopt new procedures.

Very few then recognized the fact that our continued exports had been subsidized by our own extension of credit to foreign nations and their buyers. Few understood the significance of our transformation from a debtor to a creditor nation. For the vast majority tradition was good enough and the farmers were always griping anyway. Why get excited about it?

In 1923, the Federal Intermediate Credit Act had been approved. It provided for those 12 intermediate credit banks to rediscount agricultural paper maturing within 3 years, for banks and special lending agencies. But this did not fully meet the short-term credit needs of farmers, though it helped some. It was another decade before the complete Farm Credit Administration was established.

In 1923 also, as probably most of us have forgotten, the curious Norbeck-Burtness Bill was proposed. It would have authorized the appropriation of Federal funds to enable spring-wheat farmers of the Northwest to turn to dairy production. The President even called the Northwest Agricultural Conference to meet in Washington, February 1924, and give the bill public support. But it obstinately endorsed the surplus-control legislation of the type embodied in the McNary-Hogan Bills, so nothing came of the other measure.

In July 1924, the American Council of Agriculture was established at a big farm mass meeting in St. Paul, to campaign for surplus-control legislation. It was followed closely by formation of the Executive Committee of Twenty-Two, which grew out of a conference of midwestern and northwestern State Governors. Rural areas were stirring and active propaganda began.

In November 1924, President Coolidge called his own agricultural conference. It held the customary meetings and gravely reported in early 1925. The program it proposed proved entirely unacceptable to farm forces generally, for it failed to supply any blueprints for the system of balanced agriculture it so blandly advocated. It did propose a Federal cooperative marketing board with very broad powers.

By now Secretary Gore was leaving the Cabinet and President Coolidge, having been reelected, named his own Secretary of Agriculture in William M. Jardine. We pass now to a period of unification, consolidation, and tremendously valuable exploratory thinking within the Department of Agriculture. The Department itself could take no drastic actions to solve the mounting farm problems until public opinion had crystallized, and Congress had enacted the required legislation. But it prepared itself so that it could take hold quickly when empowered to do so.

X -- The Calm Before the New Deal

We enter now upon **a time** of relative tranquility within the Department, while storm raged without. This was an 8-year period of consolidation and unification. That does not mean that the staff or its direction was lethargic or incompetent. It means that in our democracy an Executive Department cannot assume new functioms until Congress gives it authority, and the Department's current functions were inadequate for the solution of the growing farm problem.

First there must arise various pressure groups, each of which has its own panacea for the situation. They can neither solve emergent problems nor exert unified pressure on Congress. They must next achieve unity of purpose. Finally, they do so, often after years have elapsed. Their pressure is then irresistable and Congress enacts a reasonable facsimile of the legislation required. Only then can the Executive Department reenter a dynamic phase of operation by putting the new laws into effect.

In the 1925-30 period, the average annual value of our agricultural exports was still $1,791,529,800, fortified by our own loans, but they constituted only 37.1 of all our exports. The first hybrid-seed corn company was organized in 1926, and a successful light tractor was developed. So we were getting in shape rapidly to produce more right while our market shrank.

The export-debenture plan--camouflaged dumping of farm surpluses abroad, was also proposed in 1926. During this period the McNary-Haugen Bill was twice vetoed, the Federal Farm Board was established, and we were on the highroad to a panic.

Only 21.5 percent of our people gainfully employed were engaged in agriculture by 1930, and the estimated average equity of farm operators in the land they farmed was 41 percent. This figure dropped to 39 percent 5 years later. The agricultural export market suffered increasingly serious competition. Making loans to Europe finally ended. Then our own tariff walls were reared quite effectively to shut out foreign goods. This stimulated relaliative action on the part of other nations. The highly protective Hawley-Smoot Tariff was approved in 1930, and it now became necessary to prove to farmers that it was mysteriously beneficial to them.

With advancing technology farm labor requirements dropped rapidly for all crops. The use of hybrid-seed corn spread rapidly. Multiple-row cultivators, corn planters, and corn pickers came into wide use. The all-purpose rubber-tired tractor and complementary machinery appeared and tenant families were pushed wholesale off the land. Soil erosion, the shortage of new good land, and farm insecurity mounted.

It was at this point that William M. Jardine (1879----) took office as Secretary of Agriculture, serving from March 5, 1925 until March 4, 1929. He was appointed by President Coolidge and left his post as President of Kansas State College to accept. Like Secretary Gore he also had had earlier Department experience in a subordinate capacity.

Mr. Jardine's father was a Scottish silk weaver who came to this country in youth. Jardine himself was born on an Idaho farm which he left for Montana at the age of 17, to become a dairy helper and a woodsman. He graduated from Utah State Agricultural College in 1904, and did postgraduate work at the University of Illinois. He was then, successively, an assistant, an instructor, and a professor in the agronomy department of his alma mater. Next he became an assistant cerealist in the Department of Agriculture, 1907-10, in charge of dry-land grain investigations.

Jardine's next move was to Kansas State, where he became Dean of Agriculture and Director of the Kansas Agricultural Experiment Station, 1913-18, and then President of the college from March 1, 1918 until March 4, 1925. He was also a member of numerous commissions and boards and the author of numerous papers and bulletins on dry farming and crop production. His brother, James T., became Director of the Oregon Agricultural Experiment Station and was for quite a period Chief of the Office of Experiment Stations; he was a pioneer specialist in forest range.

William M. Jardine opposed the McNary-Haugen Bill and price fixing for farm products. After leaving the Department he was, from 1930 until 1933, Minister to Egypt. Since then he has been President of the Municipal University near Wichita, Kans. He was a placid, professorial individual, not given to violent outbursts or action.

During his term ominous agricultural conditions were still somewhat masked by the spurious and highly specialized industrial and financial prosperity. However, in his first annual report, covering fiscal year 1925, Secretary Jardine held that the marked improvement of 1924 had continued--though moderately. There was a large wheat crop, but a surplus was not feared, while the large cotton crops were said to have allayed fear of destruction by the boll weevil! The report spoke of "restoration of stocks."

Agricultural exports were said to have increased. But the farm credit situation was regarded as deplorable, the small farmer was admitted to be suffering, and local agricultural credit organizations were suggested as a remedy. In some regions it was held that malicious lack of confidence in future expansion had developed!

One section of this report was entitled: "Economic Problems in Agriculture; Agricultural Surpluses." At least this was familiar. Herein it was stated that agriculture simply must not be permitted to depress itself periodically by heedless overproduction ,because such surpluses were bound to be diastrous to the industry. Stabilized agriculture could not be obtained if overproduction continued. These minatory remarks were sound but relatively meaningless in the circumstances.

For the Department's remedy here was an effort to give farmers every scrap of valuable economic information it could procure. It would also try to set up a comprehensive system of standards and grades. It would, in addition, seek to promote the provision of facilities adequate to give stored crops a good collateral status. Then, with farmers better able to manage production, distribution, and marketing, most of their problems should vanish.

Crop carryovers could then be stored to aid in adjusting production schedules. Agricultural cooperatives would be encouraged in every feasible way, for these, the farmer's own business organizations, could greatly aid him. At the same time it was suggested that efforts be made to increase the efficiency and decrease the unit costs of production, without bringing new areas into cultivation. The purchasing power of farm products was still far below wartime levels. It simply must be improved. If exhortation would help, here it was.

Indeed the ideas expressed were excellent. The difficulty was that farmers could not put them into effect without the aid of the Department as an over-all general staff, democratically cooperating with them in a well-integrated plan also devised democratically. Instead the farmer was advised to attack as an individual, problems of national and international

scope. But such problems could be solved only by closely cooperative action under governmental guidance.

The Purnell Act had been approved, authorizing additional grants of Federal money to the State experiment stations, as recommended by Prssident Harding's agricultural conference. The increased funds were to be used for research in the economic and social aspects of agriculture, which gave the act marked significance. The subject matter was finally widened still further to include every factor connected with the promotion of an efficient and healthy agricultural industry.

Agricultural pressure groups also recommended the passage of laws to authorize the establishment of agricultural credit corporations and for expanding livestock grazing rights in the National Forests. Investigations of high freight rates and farm taxes were undertaken. Insistence developed that part of the tax load be removed from farm property. The Department also recognized that it must aid in the business organization, management, and operation of farm cooperatives, and in educating farmers regarding them.

At this time great store was set by cooperative marketing which, it was felt, should be encouraged in every possible way. The Secretary's report declared that "agriculture is convalescent after a severe illness," but the acute stage of the illness had barely begun. That appeared to be unrealized. It would also take more than attention to freight rates, taxation, the proper use of the public domain, and the extension of cooperation to cure this sickness. But soon the Old Deal began to outline measure after measure that the New Deal later made effective.

The Office of Personnel and Business Administration was organized in 1925, making for further departmental integration. Very gradually the

functions of the Chief Clerk and his office were being taken over by larger units as the work grew. Therefore his office itself assumed obsolescence and was abolished in 1930. On June 30, 1925, the Department had 20,500 employees of whom about 4,800 were in the Washington area. But its units were widely scattered in 40 or more different buildings, many of them entirely inappropriate, so its housing problem again became acute. Newton's old Red Brick Building was bursting at the seams and Wilson's Wings could not absorb the overflow.

Secretary Jardine professed to see moderate agricultural improvement in reporting for 1926, though he admitted that recovery processes did not proceed uninterrupted. He also admitted that difficult problems remained before current efforts to curtail production by exhortation could bear fruit. Farmers were now urged to concentrate on improving the quality of their products, thus to command higher prices. Many of them were said to be inefficient. It was anticipated that better adjustment of production to market requirements--with consumer interests safeguarded, and improved marketing would dispose of the perennial surpluses.

Cooperative marketing and cooperative buying both must be developed by farmers. These cooperatives must be provided with accurate information; they must be directed competently by experts. Establishment of a Division of Cooperative Marketing was authorized by an act approved July 2, 1926.

The farmer's fixed expenditures--interest, taxes, increasingly expensive equipment--were a growing burden, even though the land banks had already advanced $1,698,000,000 to ease it. Studies had proven that farmers bore a disproportionate share of the tax burden, yet a sudden drastic cut in their taxes was clearly impossible. Maybe freight charges should be reduced and highways further improved, then the farmers could tap

more distant markets and thus improve their status. Finally the Secretary insisted that farmers really did benefit from high tariffs.

The cotton crop had been large, but returns from it were disappointing. Stocks of agricultural commodities still obstinately tended to accumulate as if possessed by some magic reproductive power. Farmers were again urged to sacrifice bulk for quality production, though if they all did so, who would gain? Delicate instruments detected a faint improvement in the foreign market.

The staff Office of Information had now been set up with Nelson Antrim Crawford in charge; in it were combined all radio, press, and publications work. Exhibits and motion pictures came back during World War II. Market news and outlook reports were said to have been improved.

Reporting for 1927, the Secretary admitted that the farm problem was still acute and unsolved. He now suggested that wastes be cut, production costs diminished, the margin between producer's cost and consumer's purchasing price reduced, the costs of transportation and distribution lowered, and the tax burden so redistributed as to reduce the farm overhead. Farmers were once again urged to cooperate to enhance their bargaining power. What should be done was seen clearly; how to do it remained a puzzle. Obviously the farmers were powerless to effect these reforms unaided.

The marked progress in technology since the war now further complicated the problem. The land required to feed power animals had been reduced 15 or 20 million acres; increased mechanization had decreased the numbers of horses and mules required. Technology not only markedly increased production directly, but it opened more acres for the growing of crops for human beings, and it complicated the farm tenancy problem.

Cooperative marketing had made some progress. But united farmer action would be required to adjust production to demand, and that was hard to promote. There were also complicating credit problems around which public responsibility for farming revolved. Taxation was increasing, but it was once more bravely asserted that high protective tariffs aided farmers. The rapid expansion of cotton growing in Texas and Oklahoma presented new credit problems because so many growers could produce no security for loans.

The problem of proper land utilization now assumed importance. This was a trend directly counter to the traditional theory of individual exploitation of land resources and letting the other fellow go hang. We now had more acresge in cultivation than we needed. Agriculture had overexpanded into marginal and even submarginal land. Reclamation projects must be examined critically and the ceaseless agitation for more irrigation projects viewed with caution. What was worse, land unfit for agricultural development was still being settled under the homestead acts.

Once again scientific research required defense, as it was now in a most vulnerable position. It was described as an excellent investment bringing good returns to all the people, though further research in marketing and economics was urgent. Actually the money invested in Department research in the natural sciences regularly brought returns of from 500 to 10,000 percent, in the form of social dividends. But this knowledge, exploited as it had been, had materially helped produce the surplus problem.

The Bureau of Chemistry and Soils had been created from part of the old Bureau of Chemistry and all of the old Bureau of Soils, which thus lost its separate identity. At the same time the Food, Drug, and Insecticide Administration (later Food and Drug Administration) was

made into a separate unit to carry on the regulatory work in its field. Thus research and regulatory functions were sensibly divided, though Dr. Wiley fulminated in anger from outside at what he regarded as the destruction of his old bureau. That agency had already embarked on a far-reaching research to find new uses for agricultural wastes, culls, byproducts, and periodic farm surpluses. The Insecticide and Fungicide Board was merged with the Food and Drug Administration on its formation, June 30, 1927.

During this period of depression agriculture was acting much as industry had when it met hard times. Efforts were made to decrease costs and increase production efficiency, largely by resorting to the use of more machinery. Tractors on farms increased rapidly in number; the combine was moving East from the Great Plains. The use of power machinery was extending wheat acreage far into semiarid regions, between 1919 and 1924. This was creating new problems which would have to be faced later.

Combines enabled 2 men to harvest from 400 to 500 acres of grain in 15 days of actual work. Combine harvesting reduced the labor required to harvest and thresh 400 acres of wheat from 120 to a mere 30 man-days. But combines also were expensive. Hard cash, not oats, was required for their upkeep. Like other farm machinery they cut farm employment. But they and their like also greatly increased the capital required for farming, In some cases a single tractor can displace as many as nine farm-tenant families. Thus heedless technological advances produce processions of pathetic migratory workers in makeshift machines. Tractored off their land they go endlessly down the highways without hope.

Meanwhile the invention of farm equipment has, according to the Federal Trade Commission, produced a formidable monopoly in the agricultural implement industry. Thus both equipment manufacturers and

dealers in gasoline and oil have been enabled to cut a large slice of the farm income for themselves. For the farm-implement makers and the gas and oil dealers and refiners have surreptitiously entered the farm business. They have shared the profits when there were any, and they always got paid no matter what happened, without sharing the risks.

In 1927 alone, over a half billion dollars worth of agricultural equipment was sold. In May 1939, 3 million farm families still had low incomes and 2 million were on relief. From 1930 on, 90 percent of all farm products going to market went from the best equipped half of the farmers. The other half of the operators took in only that part of the gross farm income represented by 10 percent of the products going to market--plus their own miserable subsistence. Much of the time they actually paid for the privilege of farming.

The gross farm income ran from 7 to 9 percent of the national income, yet approximately 25 percent of our people were on farms. In recent years our entire agricultural production for the effective market could have been produced by from 1.6 to 2 million well-equipped farm operators using the most modern machinery, cultivation methods, plants and animals. In 1929, nearly that many farm families reported annual gross incomes of less than $600, and 1½ million farm-tenant families lived in houses costing less than $550. In 1929, even conservative figures indicated that farm products required for effective demand could have been produced by 1.6 million fewer workers than were on farms.

Various suggestions for national farm legislation were under active discussion during Secretary Jardine's term, among them the recurrent proposals for some sort of multiple-price system--one price for domestic and a subsidized price, if necessary, for export farm commodities. While

the Secretary felt that farmers must solve a large part of the farm problem individually and by purely voluntary cooperation--which proved beyond their power--he did favor legislation further to encourage large agricultural business organizations, if owned and controlled by farmers and managed by strong business executives chosen by producers. However, the voluntary joint action of organized farmers was urged to preserve the delicate virtues of self-reliance and self-sufficiency.

The urgent need for adjusting production to demand was still harped upon. Wide variations in the production of important crops, year to year, were desplored as upsetting prices. The necessity for additional credit facilities was admitted; in many sections banking facilities had already broken down. Banks were failing right and left, local credit facilities in general were less adequate than normal, merchant credit had become prohibitively expensive, hence other sources of production credit must be provided.

Secretary Jardine's report for 1927 also said: "Public responsibility to agriculture in helping to minimize price fluctuations due to unavoidable surpluses is, in large measure, a problem of suitable credit to hold a part of the surplus crop off the market from one season or from one year to the next. Such assistance need not be a 'subsidy', as some critics have called it, but an extension of public credit to help reduce the hazard of farming which is due to unavoidable fluctuations in production and consequently in prices."

This very significant statement indicates considerable progress in official thinking. Not only is the concept of public responsibility for agriculture formulated, but the idea of the Ever-Normal Granary is outlined. Preparation for the New Deal was surely under way.

Turning to science, the Secretary wrote: "It would seem that,

if the scientific work of the Department is to be placed upon the most efficient basis possible, the Secretary should be given more latitude to establish the type of organization and the positions necessary. In commercial work the salaries are from 50 to 100 percent higher than in Government service, and they are from 25 to 50 percent higher in better college positions. The Government should at least be in a position to hold its own with the universities and the research foundations." A considerable exposition of public benefits derived from research followed.

As Government expenditures were now under heavy fire, it always being supposed that any depression can be routed if they are cut, a serious effort was made in this report to prove that the Department spent less money than was commonly supposed. Although the total appropriations for the 1927 fiscal year amounted to $153,393,706, 92 million dollars of that went for building public roads in the States, and $8,760,000 went to the States under the Hatch, Adams, Purnell, Smith-Lever and other acts. In final analysis only 47 million dollars was used to finance what were called the Department's ordinary activities. This double-entry budget, not by any means invented by Franklin D. Roosevelt, made things look better, but it was also realistic.

In reporting for the fiscal year 1928, when appropriations were only about 4½ million dollars less, Secretary Jardine cheerfully observed that agricultural prospects were bright--in spots. Cotton acreage had increased, the corn crop was large, but exports had declined. The trend towards increasing farm tenancy continued. There was a cotton carryover problem now--how could cotton be enabled to compete better with other fibers? The cattle industry was said to have recovered from six lean years.

National responsibility for farm welfare was now boldly stressed. After all had not the Nation appealed to farmers for vastly

increased production to win the war? Had not farmers nobly responded? Is that not what got them into their present predicament? The farmer was a victim of patriotically motivated "abnormal and unbalanced expansion," and the idea dawned that the Government which got him into trouble had some obligation to get him out. Then land utilization problems were discussed for several pages.

One section of this annual report was headed "Agricultural Relief." It also flatly stated that the Government must assume responsibility for solving agriculture's problems. It suggested the creation of a farm board to finance and handle surpluses through stabilization corporations, a direct reflection of the desires of certain pressure groups.

The Cooperative Marketing Act, approved July 2, 1926, had aided marketing research. Further loans had been made available to farmers by an act approved February 25, 1927, a dubious kindness. But foreign competition grew keener daily, farm taxes were as high as ever, and unsolved problems abounded and prolifically reproduced themselves.

Farm credit was still causing apprehension. In 1923,the Intermediate Credit Banks had been established to act as rediscounting agencies, so that livestock loan companies and agricultural credit corporations could be set up to make loans directly to farmers. An act approved February 8, 1927, amended that legislation by authorizing national agricultural credit corporations to make loans on farm crops being grown for market.

The act of February 25, 1927, so amended the Federal Reserve Act as to authorize any national banking association to make loans on real estate--farm lands included--when within the reserve district or

near the bank. But many serious credit difficulties remained and, in the fiscal year which ended June 30, 1927, there were 831 bank failures in the United States, three times as many as in 1923, twice as many as in 1926.

The Produce Agency Act, approved March 3, 1927, made it unlawful for commission merchants receiving perishable farm produce in behalf of another person to destroy, abandon, discard as refuse, or dump, with insufficient cause. The act also forbade the making of false reports with intention to defraud. The Cotton Statistics Act, approved on the same day, authorized cotton classification and was designed to foster cotton improvement.

In 1928, it was estimated that there were 853,000 tractors on American farms. In 1927 alone, 62,742 tractors were produced, double the 1916 production, yet less than half the 1928 output. No wonder the trend toward fewer and larger farmers set in and still continues. For instance, Montana had about 35,000 wheat farmers in 1915-17; in 1928, it had but 14,000, but they represented very much higher average holdings. The wheat farmers were both handling more acres and working more efficiently than their predecessors. Farm workers could also produce much more per man than a few years ago.

It was significant that such facts as these should be followed in Secretary Jardine's report by a section on farm relief. Passage of the act founding the Federal Farm Board was hailed with delight as providing increased opportunities for cooperation. But adverse criticism of the existing farm credit system continued unabated. In some States production credit was costing farmers 25 to 35 percent per annum. Average costs for all short-term agricultural credit ran from 10 to 15 percent. But the cumulative pressure of farm problems increased continually and, in 1929, panic and Nation-wide depression burst the dikes and swept the land.

Towards the last of the Jardine Administration the Bureau of Chemistry and Soils absorbed some additional work from the Bureau of Plant Industry and also took over the famous Fixed Nitrogen Laboratory. The Bureau of Animal Industry absorbed the Packers and Stockyards Administration. The Plant Quarantine and Control Administration was formed from the Federal Horticultural Board, and from certain units of the Bureau of Entomology and the Bureau of Plant Industry.

New buildings were to be erected. The Department's 19 units were still housed in some 40 scattered buildings. Some single bureaus actually were in occupancy of as many as 8 or 10 different unsuitable structures. Public works appropriations to assist the unemployed were soon to permit the construction of new buildings.

In 1927, L. O. Howard, who had so long headed the work in entomology, retired as chief of the bureau, but remained on as an adviser until 1930. He graduated from Cornell in 1876, and came to the Department in 1878. At this writing he still lives in retirement.

At this point Arthur M. Hyde (1877-1947) a former Governor of Missuori, became Secretary of Agriculture by appointment of President Hoover. He served from March 5, 1929 until March 4, 1933. Born in Princeton, Mo ., Mr. Hyde graduated from the University of Michigan in 1899, and from the law school of Iowa University a year later. He then settled in his home town to practice law, later serving as its mayor. In 1915, he moved to Trenton, Mo., where he thereafter maintained his residence.

Mr. Hyde's father had been a member of the House of Representatives, and he himself was always active in political as well as religious circles. He attained considerable fame as an orator, debater, and master of the salty phrase. He operated several farms, engaged in the automobile

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business and, in 1927, became President of the Sentinel Life Insurance Co., of Kansas City, Mo. He was a follower of Theodore Roosevelt in the Bull Moose movement, but served as Republican Governor of Missouri, 1921-25. As such he carried on a vigorous road-building campaign and educational betterment program.

As Secretary of Agriculture,Mr. Hyde's special interests were road improvement, cooperative marketing, and the better dissemination of technical information among farmers. He announced that he would make few political appointments and he kept his word. On retirement, he resettled in Trenton to practice law. He died in New York City, where he had gone for serious operations, on October 17, 1947. While in Washington he taught a large and widely known Sunday School class, and he always fought vigorously against what he regarded as pernicious trends in modern physics.

Secretary Hyde's initial report reviewed the agricultural industry as a whole and specifically analyzed certain crops. He insisted that agricultural conditions were improving and that the decline in farm land values had ended. He said that the farm machinery used showed a 445 percent increase in value per farm workers between 1870 and 1925, expressed in 1913 dollars. He also observed that this increased use of tractors led to larger farms, and more tenancy, and he admitted the need for agricultural relief.

The bargaining power of agricultural producers must be enhanced through cooperatives, the supply of agricultural products must be stabilized, and a scientific agricultural land use policy must be developed. In addition, the market for agricultural products could be broadened by finding new uses for them and their byproducts. Transportation maladjustments must be corrected and undesirable agricultural speculation minimized, as it would be under the Agricultural Marketing Act of 1929. These measures would restore

health to agriculture. Here was another earnest sermon, sound in doctrine, but very difficult to apply.

Meanwhile the Federal Farm Board had been organized. It had authority to create commodity stabilization corporations and to foster and collaborate with farmer cooperatives. It could make loans from a revolving fund of 500 million dollars, but it had no control whatever over production or acreage. That was its Achilles' heel.

The first subhead of the Secretary's next annual report was "The 1930 Drought." The effects of this drought were so extended that relief was required and emergency loans were made. The Red Cross also aided. Congress authorized emergency loans in the amount of 6 million dollars, available in both 1929 and 1930, and $4,580,683 of the first 6 millions loan had already been repaid.

Cotton yields still doggedly mounted and something must be done about the irritating carryover, which was far too ample for normal market requirements. There had also been a wheat carryover ever since 1927, and it now amounted to 275 million bushels. The irresistable urge to create surpluses continued unabated.

The report mentioned the "current slump in agricultural prices and incomes," as reflecting the effects of continued overproduction, a worldwide depression, the burdensome surpluses, and the stock market break--not to mention a world price decline and the smallest farm exports since 1915. Meanwhile technical progress in agriculture intensified, and Canada, the Argentine, and Australia were busy capturing out wheat-export markets. Acreage muct be curtailed, especially on high-cost-of-production acres. But how?

Farm taxes still rose as land values fell. Both voluntary and forced sales were numerous and farm credit conditions remained generally

baleful. Low commodity prices menaced the farmer's security; loan agencies now regarded him as a poor risk. Mortgage financing should be based squarely upon scientific land valuations, but it was not. Rational land use really called for a scientific classification of our land resources, a reconciliation of reclamation policy with restricted production, effective reforestation, making the public-domain policy serve grazing needs, and giving accurate information to private enterprise on land settlement. This sounds like a list of New Deal measures foreshadowed.

By now it was apparent to all that American agriculture was in a bad fix. It was suggested that wheat acreage be cut by eliminating those high-cost acres, a pious notion destined to remain inoperative. It was observed that the very growing technical efficiency of American agriculture was used to justify its persistence in producing too much. We read:

"Farming has been industrialized and mechanized. It has used science, decreased its production costs, and increased its output, without finding either profit or security in the process. It has made two blades of grass grow where one grew before, only to find the second blade depressing the price of both." Again we are in the shadow of those stubborn surpluses.

If this course was continued in the effort to force competitors out of the market, the future would be worse than the past. Farming and livestock breeding were becoming more efficient all over the world. A halt must be called in farm production, but who would call it? Other industries behaved differently--the automobile, for instance, which in the first 7 months of 1930 voluntarily reduced the production of motor vehicles by 44 percent. Henry A. Wallace did not initiate the idea of reducing production; he merely effectuated it. Hyde wanted to reduce it, but lacked the implements.

But hope was still faithfully fixed on cooperatives, better land utilization, improved credit conditions, and the other farm prescriptions trotted out year after year. An act of June 5, 1930, provided much needed expansion of the Department's foreign service, and it was thought this might perhaps help the general situation. An act of June 10, 1930, to regulate trade in perishable commodities, suppress unfair and fraudulent practices, prohibit fraudulent charges and improper rejections, and so on, was mentioned with approval. This act also provided for the licensing of commission merchants and authorized the Secretary to pay reparations to injured parties.

Secretary Hyde was the first head of the Department to have his office located elsewhere than in the old Red Brick Building planned by Newton. At long last the center had been placed between Wilson's Wings and the new Secretary's office was on the second floor center of this administration building. The old Red Brick Building was then demolished and the Department grounds were relandscaped on rigid geometrical principles so that no oldtimer would recognize them.

It was hoped that the completion of the Administration Building, and of the huge 7-winged extensible South Building, destined finally to occupy the entire two blocks between Independence Ave. and C St., 12th and 14th, S.W., would finally solve the Department's space problem and enable all Washington employees to work together. Great expansion under the New Deal and World War II prevented this.

In fadt practically all laboratory work was moved out to the Agricultural Research Center at Beltsville, Md. Today the two buildings in Washington do house some 10,000 workers, with another 2,000 in Beltsville. These combined comprise what is called the staff in the metropolitan area of Washington, D.C.

In the annual report for 1931 wicked world influences were accused of depressing American agriculture. This malicious animal magnetism deprived it of a foreign market and burdened it with surpluses. It was at last chastely observed that the war had reversed a long-time teend. It had made us a creditor instead of a debtor nation. We had overshot the effective European demand for our products. Our own extension of credit had for a time retarded an export decline, then our foreign market had vanished with the loans. It would not return until European credit was restored, so American agriculture might just as well adjust itself to this lost foreign market. For our surplus difficulties were really export troubles, and agriculture positively would benefit from the high tariff--just as soon as we learned to quit producing for an export market which no longer existed!

Agricultural prices were said to have declined more than other prices just because it was so easy for farmers to overshoot effective demand and so difficult for them to control production. Though they had been admonished to make crop adjustments, they went heedlessly ahead and tilled the greatest acreage in history in 1930. What could you do with such people? But Washington's plaintive homilies continued to fall on deaf ears, Compulsory acreage readjustment seemed inadvisable, yet voluntary curtailment certainly was a failure. Somehow farmers must agree in common cause. But how?

The year had been especially disastrous for wheat, what with Canada, Argentina, and Australia rudely cutting in on our European export market. There was still extreme overproduction, Of course, the operations of the Federal Farm Board had helped some--its Chairman had preached plowing under with diligence and power--but then cotton prices fell flat and our supply of the stuff was double the world's consumption of American cotton during the past season. Livestock and dairy products were down too, and exports shrank.

We simply must put our land to "right uses"--re-plan land use on a research basis, for emergency conditions demanded action programs! We should get farmers off poor land, promote compact rural communities, and create conditions such that land could be put to the best use for which it was adapted. We must maintain forest and range areas intact, discourage further agricultural expansion, and readjust land valuations. We must develop such types of land use as would comtribute to watershed protection, flood control, and the growth of forests, for farm land values still declined. This talk was good; it was premature New Deal talk.

All the State legislatures were frantically trying to economize now. The Seventy-first Congress made 45 million dollars available for drought loans alone, out of a total authorized credit of 67 million dollars. There was much rural privation, but Congressional appropriations already made to the Department for unemployment relief by work on public roads, highways and in the public domain, would be a big help. Even the Biological Survey had funds for such purposes.

But everybody knew, of course, that extension of too much Government credit would wreck the country financially. If the public debt ever got up into the region of 30 or maybe 40 billions, away we'd go into bankruptcy and the currency would lose all value. So the Government had to be mighty careful how it advanced money.

While American farmers had been persuaded to make certain crop adjustments during recent years, compulsory adjustments were still considered inadvisable, if not heretical. However, it was mighty hard to get so many individuals to cooperate as would be required to make regional adjustments.

In the fiscal year ended June 30, 1931, the value of our agricultural exports had dropped almost half a billion dollars from the previous year, and were the lowest for any year since 1911. For the first time since 1922 farm population showed a net increase during 1930. The trek of industrial outcasts to the land was on the way. The assumption was made in this report that the population of the United States would become relatively stable around 144 millions by 1960, and that farm production must be adjusted to a domestic market of the indicated size.

The Seventy-First Congress passed legislation to supplement existing credit facilities. But banks continued to fail and credit facilities still seemed inadequate. Congress had also appropriated those huge sums--by prewar standards--to the Department for types of work that contributed to unemployment relief--the construction of Federal-aid highways, roads and trails in the National Forests, the construction and repair of the Department's buildings, and of the equipment used for research and service work. Yet things conspired against us and conditions just got worse and worse.

Secretary Hyde opened his annual report for 1932 by discerning some delicate signs of improvement, though he admitted there was still great shrinkage in demand. The mortgage debt and other ills were now piled inexonerably upon the farmer's emaciated income. Efforts to extend credit to him increased rather than lessened his burdens.

But a note of cheer was injected by the observation that orginary agricultural expenditures had absorbed only 10 percent of the Department's budget of $279,616,139. Thereupon the two-budget system was clearly expounded--the separation of emergency from regular items, Most of the Department's funds were shown to go for emergencies or for road construction.

Its routine, old-line services, which cost relatively little, were worth far more than that cost. These ordinary expenditures ran around $30,758,947. The Department's total appropriation averaged 300 millions a year for 1931-32, as it was $347,598,697 in fiscal year 1931. But its ordinary expenses constituted less than o.5 percent of the Federal budget. Oddly enough this double-entry bookkeeping, which separated ordinary from emergency, which were usually capital, expenditures, was later attributed to Franklin D. Roosevelt.

Secretary Hyde continued in his report that reduced production costs on the farm widened and expanded markets for farm commodities. He also urged once more that farmers prevent waste, that the quality of their products be improved, and that new uses be discovered for agricultural commodities. In general, however, agriculture's basic illness ran on. Symptoms were treated palliatively, but the remedy remained to be discovered.

The Department's basic task was still held to be scientific research. But its results were now said not so much to stimulate production as to help balance supply and demand, guarantee the dependability of production, raise living standards, and aid industry as a whole. Research in finding new uses for farm commodities also founded new industries and spread employment. Finally, the Department's research very definitely improved the quality of commodities; it did not just malignantly increase production.

Again research had to be justified. The public had to be told that it did not cause present ills, that its value should not be distrusted, and that it really devoted itself whole-heartedly to objectives remote from the production of farm surpluses. It is significant to find science now extolled for increasing the dependability of production and helping balance

supply and demand, and not for increasing production, per se. This was a new thought.

This annual report also contained a long section on land use that briefed much the Wallace administration later did. The planning and conservation of natural resources was stressed. After all, the Department had been a pioneer in developing wise land use policies; it had formulated the entire theory. A National Land Use Conference had been held in Chicago at its suggestion where all relevant ideas were discussed and programs mapped out. The farm plant was still too large and land submarginal for agriculture simply contributed to tax delinquency, hence it must be kept out of cultivation. Soil erosion must be stopped. Secretary Hyde said that the recommendations made by the Conference would be carried out.

Arrangements had now been made through the Reconstruction Finance Corporation, and in other ways, to advance farmers greatly increased credit. Production loans were now available at moderate rates. Regional Agricultural Credit Corporations were being established. The operations of the Federal Intermediate Credit Banks had been broadened. New capital in the amount of 125 million dollars had been provided the Federal Land Banks.

Changes in the Department's structure were not particularly frequent or important during the period under consideration. But, as always, the passage of new laws often required structural changes. Thus the transfer of the Division of Cooperative Marketing to the Federal Farm Board [redacted], was pursuant to the Agricultural Marketing Act. The Agricultural Appropriation Act of 1928 combined the Bureaus of Chemistry and of Soils into a Bureau of Chemistry and Soils, and separated the Food and Drug Administration therefrom.

The 1929 Agricultural Appropriation Act abolished the Federal Horticultural Board. Its work, together with the regulatory work of the Bureau of Entomology and some of that in the Bureau of Plant Industry, was placed in a new agency designated the Plant Quarantine and Control Administration. The 1933 Appropriation Act changed its name to the Bureau of Plant Quarantine.

On July 1, 1931, the Bureau of Agricultural Engineering was made a separate unit. Its work began in certain irrigation studies undertaken in the Office of Experiment Stations in 1898, but were carried on in the Office of Public Roads after 1915. In the consolidation, this Bureau, which was destined to exist as a separate unit for only about 7 years, took over the work of the divisions of farm machinery and farm management.

An act approved May 22, 1928, authorized all phases of forest and related research, and the establishment of the regional forest experiment stations. The Packers and Stockyards Administration was abolished as a separate agency in 1929. Its work was placed in the Bureau of Animal Industry. Certain other laws approved will be mentioned here together. The Tobacco Statistics Act, approved January 14, 1929, provided for the collection and publication of tobacco statistics and for the establishment of standards for the classification of this crop. The Foreign Agricultural Service was authorized by an act approved June 5, 1930.

The Perishable Agricultural Commodities Act was approved June 10, 1930. It required the licensing of those handling fresh fruits and vegetables and declared illegal certain types of unfair conduct. The act creating the Regional Agricultural Credit Corporations under the Reconstruction Finance Corporation was approved July 21, 1932. This phase of credit provision went into the Farm Credit Administration in 1933.

During this period of relative calm within the Department agitation had been rife without. Under the leadership of such individuals as former Gov. Frank O. Lowden of Illinois, cooperative marketing associations were active and influential, especially in the South and West. They were demanding farmer control and management of surpluses, while they adversely criticized the high tariff and fostered cooperative marketing.

In 1926, Charles L. Stewart of the University of Illinois, was supported by the National Grange in his suggestion that customs debentures be used to subsidize farm exports. This export bounty was to have been paid producers not in cash, but in negotiable certificates or debentures, which could be used in payment of import duties.

The original proposal that a Federal Farm Board be created to assist the cooperatives in stabilizing agriculture, developed among the opponents of previously suggested surplus-disposal plans, and had taken a variety of forms by 1927. In this year it attained legislative status and the idea was endorsed by the Business Men's Commission on Agriculture and the Association of Land-Grant Colleges and Universities.

On May 25, 1928, the Senate failed by ten votes to override the Presidential veto of the second and revised McNary-Haugen Bill. Finally, the Farm Board was legislated into existence by the Agricultural Marketing Act, approved June 15, 1929.

This act was intended to promote orderly production and marketing of farm products by encouraging cooperatives and stabilization corporations established and owned by cooperatives. But the drastic decline in farm prices in the latter part of 1929 drove the Board to discontinue fostering its system of cooperative marketing associations, at least as a primary interest, whereupon it fell back on the effort to stabilize the prices of

agricultural commodities, using its half-a-billion-dollar revolving fund.

That proved to be a losing game. The Board signally failed because it lacked all effective means of production control. One memory that still stirs is that of its Chairman wandering about the Nation exhorting farmers to plow under some of their crops so that production would be lowered and prices stabilized. It was around this time that our foreign loans ceased and the export market shrank ominously.

Gross farm income from 1932 production was less than half what it had been in 1929. Fixed charges, taxes and interest included, had not declined proportionately. The Department estimated that the average farmer, after paying production expenses and fixed charges, had only about $230 left for his year's income. This gave him no return on his investment and lower than common labor wages. Capital employed in the agricultural industry dropped from 79 billion dollars in 1919 to 58 billions in 1929, and to only 38 billions in January 1933. Credit was restricted, country banks collapsed continuously, and Federal action was imperative.

What should be done? During the winter of 1932-33 all sorts of plans were discussed by the farm organizations and by Congress. When the appropriate Senate committee asked the three national farm organizations to make their recommendations for embodiment in a farm bill, each brought its own favorite remedy out of storage.

The result was a three-barrelled measure which combined the equalization-fee surplus-disposal prescription of the Farm Bureau, the cost-of-production goal of the Farmers' Union, and the export-debenture plan of the Grange. Had the bill passed, the Secretary of Agriculture was to choose the method or combination of methods best calculated to work. But no law was enacted.

Within the Department the principal agitator was evangelist Hugh H, Bennett, spreading his soil conservation gospel. He attracted attention in influential quarters and something began to be done about the dramatic and shocking erosion he cited.

It might be well at this point to record the organization of the Department, the agencies and their heads, just before the New Deal took over. On April 15, 1932, Secretary Hyde had R. W. Dunlap as his Assistant Secretary; the Director of Scientific Work was Dr. A. F. Woods; of Regulatory Work, Walter G. Campbell; of Extension Work C. W. Warburton; of Personnel and Business Administration, Dr. W. W. Stockberger; and of Information, Milton S. Eisenhower. The Solicitor was E. L. Marshall and the Librarian, Claribel R. Barnett.

The line agencies and their heads were: Weather Bureau, Charles F. Marvin; Bureau of Animal Industry, John R. Mohler; Bureau of Dairy Industry, O. E. Reed; Bureau of Plant Industry, William A. Taylor; Forest Service, R. Y. Stuart; Bureau of Chemistry and Soils, H. G. Knight; Bureau of Entomology, C. L. Marlatt; Bureau of Biological Survey, Paul G. Reddington; Bureau of Public Roads, Thomas H. MacDonald; Bureau of Agricultural Engineering, S. H. McCrory; Bureau of Agricultural Economics, Nils A. Olsen; Bureau of Home Economics, Louise Stanley; Plant Quarantine and Control Administration, Lee A. Strong; Grain Futures Administration, J. W. T. Duvel; Food and Drug Administration, Walter G. Campbell; Office of Experiment Stations, James T. Jardine; and Office of Cooperative Extension Work, C. B. Smith.

Obviously too many individual agency heads were again reporting to the Secretary. This grew much worse during the Wallace Administration. It was remedied during the Administration of Secretary Wickard. Then World

War II rendered the structure of the Department so confused and so complex that few members of its staff understood it. The confusion, necessarily incident to so great a time of emergency, was resolved by Secretary Anderson with the advice of his special committee on Department reorganization.

We are now about to consider the most dynamic phase of the Department's career. It began with Henry A. Wallace taking office as Secretary and continued until well after the end of World War II hostilities.

At this point the old Department met the New Deal. But the new functions grew almost biologically out of the old. The eight years we have just considered may rightly be regarded as a period of helpful gestation. During this time pressure groups acquired unity of purpose, creative thinking was stimulated both inside and outside the Department, and the ground was thoroughly prepared for dynamic developments to come. A careful reading of the Department's history invariably discloses the fact that the new always grows organically out of the old and that abrupt, radical departures in policy do not occur.

XI -- The New Deal in Agriculture

On March 3, 1933, Henry A. Wallace, an Iowa farm editor, a research scientist and statistician of distinction, a liberal social and economic thinker, and a successful businessman, became Secretary of Agriculture by appointment of President Franklin Delano Roosevelt. He was the son of former Secretary Henry C. Wallace and the grandson of famous old "Uncle Henry" Wallace, and he ushered in the most dynamic period the Department had ever known. Born in 1888, he was but 45 years of age, and he served until he resigned September 4, 1940, to campaign for the Vice Presidency of the United States.

A graduate of Iowa State in 1910, Wallace became an associate editor of Wallace's Farmer, becoming editor when his father left to enter President Harding's Cabinet. He also developed fine strains of hybrid corn when he was quite young and was one of the earliest to attain notable business success in selling the seed. His early statistical studies are classic, his work on corn-hog ratios and other such problems having been basic, intricate, and outstanding. But he always maintained a close connection with farm affairs.

As Secretary his name is associated with the development of the socalled "action" agencies. However, he also did more to build up the Department as a research institution in the natural sciences than any of his predecessors, except "Tama" Jim Wilson. But during his term what was essentially a new Department of Agriculture was created to carry the results of research into practical use. Wallace thought it possible for farmers to use the Department to build economic democracy through their county and township committees. But the work of this new Department was built squarely upon and sprang directly out of the foundation already existing.

Wallace sought to make the entire Department, old and new, express itself continuously in terms of action which would best conserve the soil, feed the cities, and produce a farm civilization that would serve perpetually as the foundation of our democracy. His basic interests were statistics, agricultural economics, breeding experiments and genetics, fundamental research in natural science, editing and writing. He was later to become Vice President, Secretary of Commerce, and the head of his own protest political party.

It cannot be too emphatically insisted that all that was done during this new period of action had firm roots in the research, the discussion, and the social and economic thinking carried on in the Department during the previous more static decade of consolidation. The question is sometimes asked whether Wallace was a sparking idea man. The answer is that ideas were in the air, inside and outside the Department; there was no dearth of ideas. Once the farm interests had achieved sufficient unity in their ideas and desires to influence Congress, the Department faced a spate of new laws designed to enable it to meet new problems, the solution of which had proved impossible using existing functions and techniques.

The serious handicaps under which American farmers were operating by 1933 have already been reviewed. Add in the longtime abuses--such as the homesteading of tracts which were too small, especially in low-rainfall areas, the destruction of our forests, the mining of our soil, the wastage of our water resources, and a decline in farm capital from 58 billion dollars in 1929 to 38 billions in 1933, and it is easy to see that the situation faced by the new Secretary was catastrophic.

He also faced those bothersome surpluses and want amid plenty. But something was at last done about this corrosive problem. As he declared:

"In these circumstances economic planning became not merely advisable but necessary." The initial essentials were to decrease farm production, since agriculture operated in the frame of reference created by private industry in urban centers, and to increase the income of farmers. It was also deemed a moral obligation to use unavoidable surpluses to aid those on relief. This was done even in that famous modern "slaughter of the innocents," the "murder of the little pigs."

Having mentioned this awesome subject, which will forever remain associated with the name of Henry A. Wallace, we might as well dispose of it at once. In 1933, corn-hog farmers were crushed by an oversupply of hogs in the midst of abysmally low prices. They faced the prospect of an even greater surplus and market glut when the 1933 spring pig crop moved to buyers. So their representatives worked out with the Agricultural Adjustment Administration a program for the purchase and slaughter of part of the little pigs and farrowing sows, the meat supply to be distributed to persons on relief.

This vital emergency step was carried out as planned, in line with the wishes of the producers, and in the sound tradition of modern finance capitalism when profits are menaced. There was some waste, some errors were made, and bungling occurred, but by far most of the pigs were processed by authorized plants. All edible products were turned over to reliefers. Besides 97,531,000 pounds of dry salt pork, 20 million pounds of valuable inedible grease and 5,043 tons of fertilizer, sold to commercial bidders for $604,318.68, were produced.

The program did not make pork scarce or high-priced in 1935. The pigs purchased would normally have gone to market in 1933 and early 1934. The number of hogs slaughtered under Federal supervision in 1933

varied hardly at all from such inspected slaughter in 1932 and 1934. Drought-caused feed shortages would later have starved off many of these pigs anyway; as things were the shortage forced so large a number of pigs on the 1934 market that prices dropped sharply. Finally, the whole idea was borrowed intact from industry in our pecuniary society. It simply constituted a temporary shut-down of the pork factory.

The cotton factory underwent a similar shut-down. The 1933 acreage was higher than that of 1932, and surpluses had dogged cotton for years. The harvest from this planting would have had a disastrous effect on prices, thus working permanent harm to the cotton South, To prevent this injury, farmers were paid a Federal benefit to plow under immature cotton plants. They did plow under 10½ of the 40 million acres they had planted, again using hallowed industrial technique. This decreased production in the cotton factory in the field. It constituted precisely the plow-under policy the Chairman of the Federal Farm Board had preached with such futility, and it saved cotton producers from imminent disaster.

We return now to our main story. In March 1933, the unofficial work so long carried on by informal groups at last bore fruit. Members of Congress, farm leaders, Federal and outside economists, and Executive officials all took a hand. The new President called a conference on farm problems for March 8. As a result, the first Agricultural Adjustment Act was approved May 12, 1933, and the Agricultural Adjustment Administration began to operated to enforce it a few days later, with George Wm. Peek as Administrator.

Under this act, millions of farmers entered into contracts to reduce acreage in specified surplus crops, in return for benefit payments largely financed by processing taxes. In short, what earlier administrations

had so long recommended now began to be done. The mechanisms used were novel but the basic procedure closely followed the industrial pattern of adjustment to depression.

Here again was no sharp break with the past. The ideas in the new act had been mulled over repeatedly both within and outside the Department. W. J. Spillman put forward some of the notions in his Balancing the Farm Output, published in 1927. M. L. Wilson, previously a Federal and a State agricultural employee, was in part responsible for drafting the act. Howard R. Tolley and Charles J. Brand, also associated with the legislation, were far from new to the Department.

The act, as Secretary Wallace analyzed it in his first annual report, was designed to raise farmers' income in two ways. Production was to be adjusted to demand--as his own father had advocated when Secretary. Then the Secretary was to enter into marketing agreements with producers, processors, and distributors of agricultural products, in order to eliminate competitive wastes, improve trade practices, move surpluses into market, and raise producers' prices. It was a tremendous task, but Wallace regarded the undertaking as the only alternative to chaos.

The main difficulty was that farm production had not declined when trade declined and export markets shrank. Blocked export outlets forced supplies back on the domestic market, swamping effective demand and depressing prices. Meanwhile the purchasing power of the urban community had been cut in half since 1930. The immediate problem was therefore envisaged as one of emergency adjustment in the pattern industry had formulated and so frequently utilized.

Under the new legislation compensatory payments were to be made to farmers who curtailed their acreage of the following basic commodities:

Wheat, cotton, corn, hogs, tobacco, rice, and milk and its products. Taxes were to be levied on the first domestic processing of these commodities in amounts needed to make the payments. Title II of the new act contained provisions for refinancing farm indebtedness and for the redemption of land that farmers had lost through foreclosure.

The doctrine was propounded that that part of the consumer's dollar which went to support wasteful, unnecessary competition, duplication in selling expenses, a needless multiplicity of socalled consumer services, dubious credit arrangements, and other unethical practices, should be saved. This was an attack on problems of the dubious distribution age which Secretary Houston had outlined. True, consumers would have to pay higher prices to get the farmer back on his feet, but their recompense would be the knowledge that this addition to their food bill went to the basic producer and no one else.

Reliefers were already being aided through the Federal Surplus Commodities Corporation, which worked in close cooperation with the Agricultural Adjustment Administration to make purchaes of surplus agricultural commodities for distribution among the unemployed and their families. Such purchases increased the farmers' net return at the same time. This was the original surplus-diversion program and amounted to the establishment of a two-price system for domestic consumers. It also struck hard at the cruel paradox of want amid plenty.

A fundamental objective of the new act was to establish such a balance between the production and consumption of agricultural commodities as would restore the purchasing power of farm products to the level of a specified base period. This was the prewar period of August 1909 to July 1914, for all products except tobacco, for which it was August 1919-July 1929. However, production must be so adjusted as not to give the farmer a higher

proportion of the consumer's total retail expenditures for agricultural products than he had received in the base period. Here you have the parity concept, but "equality for agriculture" had been an old slogan.

Critics were ever ready to revile and denounce these plans. But the Secretary and his associates fully realized the disadvantages of the emergency adjustment program. The Secretary candidly pointed them out in his initial annual report when he said: "It could not be relied on as a permanent means of keeping farm production in line with market requirements. From a national standpoint it has the disadvantage that it takes out of production both the efficient and the inefficient areas." The proponents of the program were not wholly lost in admiration of industrial customs.

Indeed Secretary Wallace realized that the direct purchase of entire farms would be cheaper in the long run than efforts to induce farmers to keep a portion of their plant temporarily idle. But there would be a distinct longtime advantage if the lean acres could be taken out of cultivation. Until scientific distribution could be introduced, the victory of research in aiding production must remain incomplete, a thing Secretary Houston might well have said.

The emergency program involving those 6 million young pigs, many sows due to farrow, and lightweight hogs was discussed in this first annual report. By this means 30 to 35 million dollars was added to the income of hog growers. The Federal Emergency Relief Administration purchased the meat and so handled it as not to compete with commercial supplies. Low-income families consumed the edible meat, inedible animals were processed into inedible products of value, and the little pigs themselves were saved from a lingering death by starvation in the dought and low-feed season of 1934.

But it was well realized that such makeshift emergency plans, while good enough for industry, were not good enough for agriculture. Any sensible longtime program must deal with the feed and crop-livestock situation as a whole. It must also concern itself with urban industry as well as with agriculture, but this was not possible under current legislation.

The keynote to Secretary Wallace's annual report for 1934 was "Toward a Balanced Abundance." The surpluses had first to be eliminated to prevent farm ruin, but the end of emergency adjustments was in view. Like industry, agriculture had been compelled to adjust production downward when demand fell, though it finds such adjustments more difficult than does industry, because planting and livestock breedings occur only at regular time intervals. Permanent control, instead of blind competition among farmers, was regarded as necessary for longtime adjustment, and adjustment it must be, increasing production when necessary as well as decreasing it.

Between 1929 and the spring of 1933, farm production dropped only 6 percent while farm prices fell 63 percent. During the same period the output of farm implements and of motor vehicles dropped 80 percent; that of iron and steel dropped 83 percent. But the accompanying price drops were only 6 percent for farm implements, 16 percent for motor vehicles, and 20 percent for iron and steel.

Permanent solution of the farm problem would require better balance between industry and agriculture. Undue reduction of industrial output, with price maintenance at so high a level that many consumers were barred from the market, would have to end. Agricultural parity could be achieved only when the purchasing power of the industrial population was much increased, enabling them to buy all the farm products they needed.

The drought of 1934 was the worst so far recorded in this country. It covered 75 percent of the Nation and affected 27 States. It so cut yields of feed grains that many livestock starved. However, the Nation's food supply was ample. The Government provided relief by buying and processing starving cattle; shipping food, feed, and seed to drought-stricken areas; and assisting farmers to maintain foundation herds, dig wells, and secure employment.

Secretary Wallace first mentioned the Ever-Normal Granary inthis report for fiscal year 1934, the extreme drought having underlined the idea. Adequate farm reserves must be maintained against such calamities. Farmers must be aided to store nonperishable commoditions against the lean years. Such supplies could wisely be stored under loan too, thus offering protection against having to throw large, price-depressing stocks on unfavorable markets. The operations of the Commodity Credit Corporation, established in 1933, were already demonstrating the feasibility of such loan-storage programs. Thus menacing surpluses were removed from the market and farmers were given a chance to hold their stocks for better prices later. They had simply borrowed against the surplus. The Government promised to play fair with business throughout.

The Emergency Farm Mortgage Act of May 12, 1933 and the Farm Credit Act of June 16, 1933, were said already to have been beneficial to farmers. The Farm Credit Administration had been organized in response to an Executive Order dated March 27, 1933. Reappraisal of values, lowering of interest, and scaling down of creditor's claims were all actively under way now, not just talked about; local production credit associations were being fortified.

The marketing agreements had proved useful in the control of surpluses, but at that time noncooperating producers unfortunately still shared the beneficial results under the program without sharing its costs.

Under these agreements limitations were set on the proportion of certain crops to be marketed, but penalties were not then assessed against noncooperators. The danger was stressed that supplies of critical commodities could be unduly curtailed by such agreements. The protection of consumers was also urged, and rising discontent with the processing taxes had been observed. The greatest disadvantage of the latter was that the heaviest burden fell on the poorest people.

Except for the fact that the Agricultural Adjustment Administration had been added to the list of line agencies, now with Chester C. Davis as Administrator, the structure of the Department was as yet little changed from what it had been at the end of Secretary Hyde's administration. But appropriations for the fiscal year 1934 for the first time exceeded a half a billion dollars. In this year also Charles L. Marlatt, William A. Taylor, and Beverly T. Galloway all retired.

By the time Secretary Wallace's annual report for fiscal year 1935 appeared, the operations of the Agricultural Adjustment Act had provoked thoughtful adverse criticism as well as approval. The Secretary considered a number of issues that had been raised. He denied that the measure was designed to promote artificial scarcity. Once a demand arose for a particular commodity, its production would be increased accordingly. The long-term objective of the program was to prevent those recurring cycles of over- and under-production. The design was always for a mechanism to increase or diminish the production of specific commodities, never mere curtailment. The aim was to restore agricultural prices "to their fair relationship with other prices and to continue such adjustments as will maintain the balance."

The Secretary freely admitted that production control alone was not the solution for the surplus problem. If the objective of a

"balanced abundance" were to be realized, industry must prosper. The employed worker was a consumer of farm produce. A planning measure of this sort necessarily involves controls and restraints or "social discipline," and there is always the danger that such discipline may lead to regimentation.

But Secretary Wallace also denied that the farm program conflicted with the essentials of democracy. Congress had simply acted in response to farm demand. Acreage adjustments under marketing agreements were effected only where large majorities of the farmers producing the crops favored them. Farmers themselves, acting through their county associations, were largely responsible for the administration of the program.

Several important changes in the organization of the Department were announced at this time. The position of Under Secretary of Agriculture had been created by act of Congress and Rexford Guy Tugwell had been appointed to fill the post. There would no longer be a Director of Scientific Work, and an Office of Budget and Finance had been created headed by W. A. Jump. The Director of Scientific Work had not been wholly an success, as the scientific bureaus valued their independence and were reluctant to accept the suggestions of such an officer.

In this report for 1935 Secretary Wallace considered the problem of permanent agricultural adjustment. In 1933 drastic action had been unavoidable. But now, with the surpluses depleted and both farm incomes and farm real estate values increasing, the emergency was over. Thought should now be given to long-range planning. Wrote Mr. Wallace:

"Broadly, the object of a longtime farm-adjustment program should be to promote and encourage the best utilization of the individual farmer's resources, and at the same time to adjust farm production as a whole to yield the maximum farm income over a period of years. Essential "balanced solution

to the program would be action to conserve soil fertility and to find other than farm uses for the land not suited to farming." You heard about this long ago? Yes, it has been said repeatedly earlier herein.

The Secretary favored a regional approach. After all the Cotton Belt, the Corn Belt, the citrus, the dairy, the tobacco, and the cattle areas cross State lines, just as do problems in land utilization and soil erosion. The separate problems of these regions and their interrelationships must be considered. That Secretary Wallace planned to do through close contact with the farmers and cooperation of State agencies. Production of the important farm commodities would be divided fairly among the different regions and then allocated among individual farmers.

By now various suits had been brought against the Agricultural Adjustment Administration. The act had been amended to simplify and facilitate its administration, and to make possible the carrying out of the Ever-Normal Granary plan. But the question of the act's constitutionality was being raised. In January 1936, the Supreme Court invalidated the compulsory features of the act and the processing tax, whereupon Congress passed the Soil Conservation and Domestic Allotment Act. This made grants to farmers cooperating in soil-conserving and soil-building programs, and discarded the use of contracts. But this legislation was essentially impotent to effect acreage or production control, a fatal defect.

Power to promote the attainment of parity income for agriculture was also an objective of this new legislation, but it could not be used until the State-aid phase of the act went into effect. Under this new law soil conservation assumed a primary, and production control a very secondary place, the reverse of their positions in the first act. After January 1, 1938, the Federal Government would make soil-conservation grants to the States for distribution to individual cooperating farmers.

The Soil Conservation Act of 1935, which authorized a program of research and demonstration in cooperation with the State experiment stations, had been broadened and amended to formulate this new act. This act recognized a social as well as an individual interest in soil conservation, and provided farmers with means to advance both interests simultaneously. Organizing the program under the new act, particularly in phases where it differed sharply from the original Agricultural Adjustment Act, was a man-sized job, but was promptly carried out.

Cooperating farmers could receive either soil-conserving or soil-building payments. The former were given if they diverted a portion of their soil-depleting base acreage to soil-conserving crops or uses; the latter if they adopted specified approved practices to restore soil fertility. All in all the operations of the act would tend somewhat to reduce the acreage of many crops often in surplus.

At this time crop insurance as a method of preventing losses to farmers was under study. There was little crop-insurance experience on a basis of which to work out an actuarial table. But it was felt that one could be worked out and that, over a sufficiently long period, crop insurance could be enabled to pay its own way.

In reporting for fiscal year 1936 Secretary Wallace remarked that farm policies were not new; the United States had had a national farm policy even before World War I. Its main tenet was noninterference with the private appropriation and use of the land. For a long time that policy worked. So long as there was abundant good land, an open frontier, and a relatively sparse population, the quickest way to increase production--and wealth--was to get resources into private hands.

But eventually this expansion program ran out of land. It then forced the land-hungry into submarginal farming, destructive grazing practices, and forest devastation. Charges accumulated on the older lands and drove operators into overproduction. Meanwhile foreign countries everywhere turned to a policy of economic nationalism. The altered economic world called for a new agricultural policy.

But the link between the old and the new was direct and close. The old exploitation forced the new conservation. The Federal Farm Board, the McNary-Haugen plan, the Agricultural Adjustment Act programs, and the Soil Conservation and Domestic Allotment Act had one basic common characteristic. They all recognized that "modern problems cannot be solved by ancient formulas, and that agricultural policy today is necessarily in large measure the opposite of what it was in the period of the open frontier."

In his annual report for fiscal year 1937 Secretary Wallace briefly set forth the objectives of his farm program as follows: 1, To assure farmers of their fair share of the national income; 2, to give people on the land security of tenure; 3, to conserve and build up the soil; 4, to promote farmer cooperatives in the field of marketing, processing, purchasing, and service; 5, to perpetuate the family-sized farm; 6, to promote agricultural research and improved farm efficiency. In other words, he wanted to adjust agriculture to the new needs of a maturing economic system.

The land-use adjustment program was now active in purchasing land which should not be cultivated and diverting it to forestry, grazing, wildlife, recreation, watershed protection, and flood control. In short, the New deal was merely doing what those earlier had talked about doing. The Great Plains Region, including the Dust Bowl, comprised a hundred thousand farms which should be turned over primarily to grazing land.

The Bankhead-Jones Farm Tenant Act of July 22, 1937, administered by the Farm Security Administration, heir to the Resettlement Administration, was furthering this program insofar as funds permitted. This act provided for a real rural rehabilitation program of loans predicated on the acceptance of sound guidance in the principles of scientific farm and home management. It also assisted in the retirement of submarginal land. The Department was growing, new agencies were entering it, its appropriations rose accordingly. But new legislation and the new agencies will be considered towards the end of the chapter.

Secretary Wallace's report for fiscal year 1938, during which the Department handled almost a billion dollars, constituted a notable exposition of the New Deal in agriculture. Here pass in review marketing agreements, surplus removal, land use planning, and farm security. The Department's work on crop insurance and in forestry, soil conservation, and scientific research are all discussed. Above all the stress is on human values. The underlying theme is a proper combination of abundance and democracy. Said Secretary Wallace: "Man needs both bread and freedom."

After this inspiring statement of faith the Secretary dealt with the problem of administering the farm program. There had been major changes in the Department's structure along four lines. To the Bureau of Agricultural Economics had been assigned responsibility for formulating programs and plans to guide the entire group of agricultural, conservation, and marketing services. The execution of the marketing work was placed in four units responsible to the Secretary through a Director of Marketing and Regulatory Work. The Soil Conservation Service, a part of the Department since 1935, took over all physical land use programs. Finally, research work in agricultural and industrial technology was placed under unified direction. Planning had been coordinated with administration,

Federal-State relations had been clarified, and the farmer had been enlisted as an essential pardner in the agricultural program.

Farmers generally were dissatisfied both with the Supreme Court decision which invalidated the original Agricultural Adjustment Act and with the operations of the Soil Conservation and Domestic Allotment Act of 1936. Their leaders played an important role in drafting the Agricultural Adjustment Act of ,1938 which involved: 1, Soil conservation, good farm management, and balanced output; 2, loans, marketing quotas, and parity payments; 3, marketing agreements; 4, the diversion of surpluses into both domestic and foreign channels; 5, the development of new uses for agricultural products, byproducts, culls, and surpluses; 6,Federal crop insurance.

The Soil Conservation Act of 1936 was reenacted, soil conservation remained a major objective, and the work was closely integrated with agricultural adjustment, the AAA making the payments to farmers who followed soil-building practices. Meanwhile they were also encouraged to keep total acreage allotments at such levels as to ensure a normal food and fiber supply, yet to avoid overproduction. But producers of wheat, corn, cotton, tobacco, and rice could obtain loans, if necessary, to put a floor under slumping prices and finance the holding of surpluses until required.

Marketing quotas could be employed to buttress the price-supporting influence of the loans, penalties being exacted from farmers who exceeded the sales quotas introduced after a referendum. Direct parity payments could be made to give agriculture its fair share of the national income. Marketing agreements permitted the organization of processors, distributors, and cooperatives into groups which exercised central control over the marketing of specific farm products. In so organizing they were exempted from the anti-trust laws.

Section 32 of the act, always familiarly referred to thus, provided that 30 percent of the receipts from import duties be segregated for use in surplus-removal operations. Marvin Jones, later War Food Administrator, sponsored this device, as well as a number of the laws bearing his name which helped constitute the New Deal in agriculture. The act also authorized the establishment of four large Regional Research Laboratories at Peoria, Ill., Philadelphia, New Orleans, and Albany, Calif., to find new uses for culls, rejects, byproducts, wastes, and surpluses of farm commodities. Finally, Title V of this Agricultural Adjustment Act of 1938, set up a Federal Crop Insurance Corporation within the Department of Agriculture. Obviously this act was an omnibus farm program wrapped in one legal bundle.

The philosophy of the Ever-Normal Granary was expounded in great length in the annual report for fiscal year 1938. The relationship between the rural and the urban communities was emphasized. The distribution of surpluses to low-income groups was discussed as a sound domestic two-price arrangement which should be made permanent, so that it could always drain off surpluses for sale to the needy at lower than market prices. Here was the Food Stamp Plan in embryo.

Adverse critics of the Agricultural Adjustment Act, who claimed that its operations resulted in regimentation, were answered by the statement that the Congress which had enacted this law could amend or repeal it, the primary safeguard of democratic procedure. Elected community committees decided on local procedures under the act. They supervised the programs, held discussion meetings, heard complaints, checked compliance with requirements, and transmitted farmer's recommendations to State committees. When the granaries filled, they themselves decided democratically whether marketing quotas enforced by penalties should go into effect. A two-thirds majority was required before quotas could be invoked, and the principle

operated only when surpluses existed. Finally, the process was one of crop adjustment, up or down as needed, not just curtailment.

The Federal Crop Insurance Act was in operation. The Agricultural Marketing Act of 1937 had been approved to provide means for the control of market supplies of fruits and vegetables and to fix minimum producer prices for milk. The Federal Surplus Commodities Corporation was removing surpluses from the market and distributing them to the needy, working through State and local welfare agencies. The Department had grown and had been partly reorganized.

The year 1939 brought war to Europe. The effects of this war on American agriculture provided the first topic discussed by the Secretary in his annual report covering that fiscal year. He insisted that the outbreak of hostilities must not be taken as a signal to scuttle farm legislation. We must continue our efforts to conserve the soil, maintain farm output in adjustment with current and prospective demand, and establish a rural-urban balance on the basis of equitable price relationships.

After a brief discussion of foreign trade the Secretary described the progress being made in land use planning, rural rehabilitation, rural electrification, home economics, and population adjustment. Surplus removal had been tied to help for the needy undernourished families and thus increased the domestic market. Direct distribution was now being made through the Federal Surplus Commodities Corporation and State welfare agencies and the Food Stamp Plan was also in operation.

The Secretary called attention to the Mt. Weather, Va., agreement signed July 8, 1938. Under its terms, procedures were to be organized for enlisting the active cooperation of the land-grant colleges and the farm people in planning and administering the Department's action programs.

The central objective had been effective democratization of the farm program by coordinating local and national interests, but the agreement sharply clarified many points long in dispute between State and Federal officials.

It was assumed that the war would injure our longtime trade prospects and nobody could tell how long it would be before our export market returned. It, of course, returned as a subsidized lend-lease market. It was then felt that our Ever-Normal Granary protected us against food shortages, and it had displayed special utility in the period of panicky buying which followed the outbreak of World War II. The possibility of increasing our trade with South America was under active consideration.

The Food Stamp Plan had been put into effect May 16, 1939. With each dollars' worth of orange-colored stamps low-income families purchased, they were given gratis 50 cents worth of blue stamps which they could use for the purchase of designated surplus foods, the grocers thereafter cashing the stamps. This proved an effective way of increasing the American farmer's domestic market and, at the same time, improving the diet of the underprivileged. It constituted a domestic two-price system.

Two types of price-supporting measures were now in use, one being a loan on certain commodities, and the other a direct price support of only the domestically consumed portion of specified commodities. Here was the two-price system in another form, because it established a price differential between domestic and export supplies. In the latter instance the support was by export subsidies which enabled exporters to pay higher prices for commodities in the domestic than they could receive or obtain in the world market.

But old farm technology was still progressing and raising new problems. Output for industrial wage earners had increased 45 percent in 59 industries between 1919 and 1935, but that of agricultural workers had also increased 20 percent between 1919 and 1938. The release of farm

labor had been very considerable. The number of workers on farms in 1938 was only 95 percent that employed 1924-29, the main decrease being in hired labor. The Farm Security Administration was seeking to aid rural underprivileged in a variety of ways.

The new Food, Drug, and Cosmetic Act, a special interest of Dr. Tugwell, had been approved June 25, 1930, and was now being enforced in part. Its full enforcement awaited January 1, 1940. The act afforded protection to farmers in their dual capacity of consumer-producers, but the Food and Drug Administration was soon to leave the Department of Agriculture.

Secretary Wallace's final report covered fiscal year 1940. When he had assumed office he held that farmers suffered under seven handicaps: World War I crop expansion, when 40 million additional acres had beem plowed up; our abrupt change from a debtor to a creditor status as a Nation; the displacement of horses and mules by mechanized power which had released another 35 million acres to cultivate for human needs; the effort of European nations to become agriculturally self-sufficient; new competition from Argentina, Canada, Australia, and South Africa in our farm export trade; the increase in our industrial tariffs, which had resulted in reciprocal action by other nations, thus shutting out our farm products; the growth of corporate monopoly and price fixing, which compelled farmers to take what they were offered for their products and to pay what was asked for their purchases.

Now, in the light of a new world war, Secretary Wallace in one short paragraph summarized the essential contributions American agriculture could now make as we entered upon a period of national defense. This paragraph read:

"Indeed, the entire National Farm Program strengthens the Nation's defense. With its emphasis on increasing farm income, on the conservation of resources, on the Ever-Normal Granary, and on the improvement of rural living standards, it increases both wealth and welfare. It gives more people more of a stake in their country and more power to defend their country. Better adjustment of farm output, conservation of resources, prudent accumulation of supplies in storage, and rational farm-price-adjustment measures enable agriculture to pull its weight in the defense program. All these things are defense resources because they give us conservation, stabilized farm income, a better nourished farm population, and in addition the conviction that in democracy we have something worth defending."

Throughout the life of the National Farm Program the results of research carried on by the Department's scientific bureaus had been of inestimable and increasing value. Whether the call was for information about soil, drought-resistant plants, varieties that would yield products which stored well, or methods of protecting stored commodities from harmful insects, the scientists knew the answers, or could find them. This pool of scientific knowledge was invaluable to us in World War II.

Secretary Wallace had also been largely instrumental in the authorization, building, and equipping of nine regional laboratories to pursue basic research on problems upon which practical results could not be achieved quickly. These nine Bankhead-Jones Laboratories attested the Secretary's faith in pure research.

Once again, in his final report, Secretary Wallace stressed the importance of diverting our farm surpluses to the underfed. His report declared that two-thirds of our people lived on an average of $69 cash per month per family--though this figure had been disputed. He also repeated the fact that our export market appeared to have vanished for an unknown period.

The Secretary, with Presidential approval, had appointed an Agricultural Advisory Council composed of representatives of farm and business groups. The Department aided throughout in the formulation and development of the National Defense Program in its farm phases. The Rural Electrification Administration, the Forest Service, the Soil Conservation Service, the Farm Security Administration, the Extension Service, and the Bureau of Agricultural Chemistry and Engineering all played important roles.

The Department's field organization made possible the quick transmission of defense information. If World War I firmly established the Extension Service, the New Deal and World War II as firmly demonstrated the importance of highly qualified professional information specialists. Much of the Department's research had a vital relation to defense and it was the information men who transmitted that knowledge.

The Army and Navy procurement services depended heavily on the Department's meat inspection service. Entomology assumed increasing military importance. The underemployed, so long dammed up on farms, were now available for defense work, when properly informed where to apply. It was seen that both city and country had benefitted from the National Farm Program. Post-war shock absorption was already being discussed enthusiastically!

There were still unsolved problems like too much farm tenancy and aimless rural migration. It also looked as if there were too many farmers, or too many people on farms for normal peacetime needs. So the surplus of crops and of men must be attacked as a single problem. So far agriculture had always acted as a shock absorber by taking the drastic price cuts and carrying on the land people for whom industry lacked work. Both our human and our natural resources must be conserved.

At this time 6 million farmers were cooperating in the Agricultural Adjustment Administration's program. Each of the 3,022 agricultural counties in the Nation had its own county AAA committee, and there were approximately 9,000 county committeemen and 6,000 alternates, and 72,000 community committeemen and 48,000 alternates—an effective army of 135,000, a network of key farm leaders Nation-wide.

In 1939, approximately 354 million acres, or 78 percent of the Nation's cropland, was included in the AAA programs. Operators of this land had shifted large acreages from soil-depleting to soil-building crops. The had made new legume and grass seedings on 41 million acres, put green manure and cover crops on nearly 26 million more, and applied more than 6 million tons of fertilizer and lime. Erosion-control and water-conservation practices had been applied on more than 25 million acres and almost 355 linear feet of terracing were constructed. The range-conservation program covered 213 million acres.

In 1940, cash farm income, Government payments to farmers included, topped 9 billion dollars, the highest total for any year since 1930, with the single exception of 1937. The cash income of farmers from marketing was 8¼ billion dollars, from Government payments 750 million, making a total of 9 billion dollars. The value of products retained for farm home consumption was 1¼ billion dollars, making the gross over-all farm income 10¼ billions. This is a far cry from the days of Jardine and Hyde. Meanwhile surplus disposal on the domestic market had been of untold value to millions of the underprivileged.

Secretary Wallace included in his final report these personal words: "It is a rare privilege to associate for nearly 8 years with the personnel of the Department. To some of the scientific workers I was introduced nearly 30 years ago through the good offices of Secretary James Wilson.

Secretary Wilson communicated to me his deep pride in the Department, his great trust in what he called 'the wise old bureau chiefs.'" The personnel of the Department had increased from 27,350 in 1932 to 79,035 in 1940, the latter number including 2,917 Farm Credit Administration employees recently brought into the fold.

The retiring Secretary remarked that the Department was neither too big nor too complicated. He concluded: "Mere size does not make administration difficult so long as there is proper staff organization and sufficient harmony of function to tie everything together in a sense of purposeful service. I found the Department full of a sense of purposeful service when I came into it. I hope that this sense had increased during my tenure of office and that it will grow even more in the years immediately ahead."

As Mr. Wallace remarked earlier, the Department's scientific work got its real start under Wilson, just as its economic work gained first impetus under Houston. It had been his own privilege to become Secretary at a time of great stress. But during his term farm income had increased, farm foreclosures had been reduced, acreage was adjusted to lower foreign demand, domestic demand had been improved, farm security had been provided many poverty-stricken families on the land, the number of farms served with electricity had doubled, and soil conservation had for the first time feceived comprehensive attention.

Recent progress was a tribute to the morale, the personnel, and the reservoir of scientific knowledge built up over the years. Two-thirds of the Department's great increase in appropriation--it amounted to $1,604,107,610 in fiscal year 1940--went directly as payments to farmers. These subsidies were not large enough to counterbalance the advantage obtained by nonfarm groups through preferential legislation favoring them. Nor

would these sums ever have had to appear in the Federal budget at all had farmers been as powerful as business and labor.

Two additional paragraphs of this report merit quotation in full:

> As I look back over the past 8 years I am proud that I have not allowed the scientific work of the Department to decline in importance. Some of the work I have not been able to increase as I would like to have done, but in the main the scientists of the Department are in a position today to serve the farmers as never before. Several years ago we imported from Denmark breeds of swine and cattle which may some day have great economic significance. Using the Bankhead-Jones research funds we have set up regional laboratories to start work on special problems such as poultry diseases, truck crops for the South, grass breeding for the Northeast, sheep breeding in the West, soybean research in the Corn Belt, etc. Four great Regional Laboratories were opened at New Orleans, La., Philadelphia, Pa., Peoria, Ill., and Albany, Calif., this fall. These, fully staffed with chemists and other scientists, can in case of need be of great use in national defense.
>
> Looking toward the future, I am happy that agriculture is in such splendid shape to serve the general welfare. We have large supplies in the Ever-Normal Granary, while at the same time we have protected the farm income with commodity loans. We have increased soil fertility. If national defense requires it, we are in a position to expand agricultural production without plowing up the hillsides or the Great Plains. If foreign markets are still further reduced after the war, we are in a position to make the necessary adjustments by suitable acreage control and by stimulation of domestic consumption.

Before considering the World War II period we must pick up some loose ends to aid our understanding. We have considered the distorted agricultural expansion of World War I which produced the farmer's subsequent ills, making it a particularly sick industry when Secretary Wallace assumed office. We have reviewed the seven major handicaps under which farmers had operated since 1919, as listed by Mr. Wallace.

Yet, in 1932, the 7 million American farm families constituted 25 percent of our population and were trying to educate 31 percent of the Nation's children of school age, while they received only 6 percent of the national income. Even in pre-World War I times, the farmer's net income ever have

was only 60 percent as high as that of the nonfarm groups. Hence farmers had long been providing the Nation wuth food and fiber at a sharp discount. Any restitution made to them by the New Deal was long overdue.

At the depth of the depression farm prices were not over 45 percent of what they had been before the depression. Agricultural production, with the AAA programs in full operation, and an unprecedented drought, never got lower than 85 percent of what it had been before the depression. By contrast industrial prices had dropped to only 85 percent of predepression levels though industrial production had dropped 45 percent. This economic imbalance was an important depression factor.

Passage of the original Agricultural Adjustment Act ushered in a veritable spate of new legislation, each law being designed to attack the farm problem from another specific angle. The more important legislative measures enacted to aid farmers were:

The Farm Credit Act and the Emergency Farm Mortgage Act of 1933; the Federal Farm Mortgage Corporation Act and the Jones-Costigan Sugar Act of 1934; the Soil Erosion Act, the Bankhead-Jones (basic research) Act, and the famous "Section 32", of 1935; the Soil Conservation and Domestic Allotment Act, the Rural Electrification Act, the Flood Control Act, and the Commodity Exchange Act of 1936; the Cooperative Farm Forestry Act, the Agricultural Marketing Agreement Act, the act placing the functions of the Federal Surplus Commodities Corporation in the Department, the Bankhead-Jones Farm Tenant Act, and the new Sugar Act, approved in 1937; the Flood Control Act and the Agricultural Adjustment Act which included authorization for Federal crop insurance, approved in 1938. The surplus-diversion programs started in 1937-38 took the Department into quite new fields, but began to start solving a problem only talked about for years.

Many new agencies were required to carry out the intent of Congress as expressed in all this legislation. The first of these was the Agricultural Adjustment Administration, organized in May 1933. The Farm Credit Administration was also formed in that year by combining several existing agricultural credit units, but it did not become part of the Department until July 1, 1939. The Federal Surplus Commodities Corporation was originally created on October 4, 1933, as the Federal Surplus Relief Corporation, and it became part of the Department under Section 204, Agricultural Adjustment Act of 1938.

The Resettlement Administration was created as an independent agency, April 30, 1935, it became part of the Department December 31, 1936 and assumed the name Farm Security Administration, September 1, 1937. The Soil Erosion Service was first set up as a unit in the Department of the Interior but was transferred to the Department of Agriculture during the same year, 1935, and became the Soil Conservation Service.

The Rural Electrification Administration was organized as an independent agency, May 11, 1935, and was placed in the Department July 1, 1939. The Commodity Credit Corporation was established October 17, 1933, and became part of the Department on July 1, 1939; it did not attain permanent status until 1948. The Federal Crop Insurance Corporation was created by the Agricultural Adjustment Act of February 16, 1938, as were the four Regional Research Laboratories of the Bureau of Agricultural and Industrial Chemistry.

The Commodity Exchange Administration was organized July 1, 1936. It superseded the Grain Futures Administration. Later it was absorbed by other agencies, finally going into the War Food Administration, and not emerging as an independent Commodity Exchange Authority until after the end of World War II, February 1, 1947.

Such in breathless order is a partial catalogue of legislative enactment and agency creation. Before the Farm Credit Administration was listed, the director and agency line-up was as follows, with Mr. Wallace Secretary, M. L. Wilson Under Secretary and Harry L. Brown Assistant Secretary. The Director of Information was M. S Eisenhower, of Extension Work, C. W. Warburton, of Finance, W. A. Jump, of Personnel, Roy F. Hendrickson, of Research, James T. Jardine, and of Marketing and Regulatory Work, A. G. Black. Eisenhower was also Land Use Coordinator; Arthur B. Thatcher haaded the Office of Plant and Operations, Fred W. Morrell that of Civilian Conservation Corps Activities, James T. Jardine that of Experiment Stations, and Leslie A. Wheeler that of Foreign Agricultural Relations. Mastin E. White was Solicitor and Claribel R. Barnett, Librarian.

The line agencies and their heads were as follows: Agricultural Adjustment Administration, R. M. Evans; Bureau of Agricultural Chemistry and Engineering, Henry G. Knight; Bureau of Agricultural Economics, H. R. Tolley; Agricultural Marketing Service, C. W. Kitchen; Bureau of Animal Industry, John R. Mohler; Commodity Credit Corporation, Carl B. Robbins; Bureau of Dairy Industry, O. E. Reed; Bureau of Entomology and Plant Quarantine, Lee A. Strong; Farm Security Administration, W. W. Alexander; Federal Crop Insurance Corporation, Leroy K. Smith; Federal Surplus Commodities Corporation, Milo R. Perkins; Food and Drug Administration, Walter G. Campbell; Forest Service, Ferdinand A. Silcox; Bureau of Home Economics, Louise Stanley; [redacted] Division of Marketing and Markerting Agreements, Milo R. Perkins; Bureau of Plant Industry, E. C. Auchter; Rural Electrification Administration, Robert B. Craig; Soil Conservation Service, H. H. Bennett; Sugar Division, Joshua Bernhardt; Weather Bureau, Francis W. Reichelderfer.

Mr. Wallace may not have found this organization complex, but

a lot of supervisors were reporting directly to the Secretary. Now how did this vast organization focus on specific farm problems? What was it intended to accomplish and how did it go about its functions?

Consider a county, once the scene of agricultural progress and prosperity, but now a tangle of human and physical problems. In the 1920-30 period it lost about a third of its population. It depended far too much upon a single crop, cotton. The result was disastrous soil erosion, boll weevil infestation, low farm income, poor housing, stranded people, inadequate schools, and a serious lack of community facilities.

Broadly the Department's programs were intended to promote security for farmer and consumer through efficient, properly adjusted production, balanced marketing, loans and storage, and crop insurance; to conserve both human and natural resources; and to improve the system of land use. Its objectives were to increase farm income, conserve soil and water, promote the growth of desirable trees and vegetation, improve land-tenure relationships, maintain and increase farm ownership by farm families, and effect better adjustment between agriculture and urban industry.

The many-sided National Farm Program stepped into this county. It called for conservation and upbuilding of the soil, the clearance of choked stream channels, a reallocation of land among the proper farm, forest, pasture, and wildlife uses, a reorganization of the cropping system, rehabilitation loans for the very poor who lacked collateral on which to borrow in the ordinary way, participation in marketing and crop-adjustment programs, better education of the people in farm and home management and organization, and good forest management on both public and private land.

Specifically, local advisory committees studied the available human and material resources of the county and formulated tentative programs.

They called on county, State, and Federal Governments for assistance. They devised means of coordinating individual, local, State, and Federal action. They organized a soil conservation district to cope with the erosion. This was done with the assistance of the farmer committees, the State soil conservation committee, other State workers, and employees of all Federal agencies involved. This cooperation among different agencies was basic to all action programs.

Soil erosion was reduced, controlled, or prevented. Some of the poorest farms were removed from cultivation. Needy farm families were rehabilitated through loans and farm and home guidance by specialists; this involved changed cropping practices, farm reorganization, new leasing arrangements, a better balanced diet, prepayment medical care, improved housing. Increased participation in the AAA programs was secured, with special emphasis on crop diversification and the reduction of soil-depleting crops.

Several agencies cooperated in reforestation, Forest Service and Soil Conservation Service providing technical advice, and the AAA making payments for soil-building. The Farm Security Administration provided community service loans for the purchase of terracing equipment and technical aid in establishing local community canneries. It aided borrowers to scale down and consolidate their outstanding debts, encouraged landlords and tenants to sign better and longer leases, arranged with the soil conservation district for equipment and technical aid needed, and cooperated with local authorities and other Federal agencies in school improvement and the provision of improved medical care.

What was the end product? Crop diversification by low-income farmers was promoted, with increased production for home consumption. Some land formerly cultivated on a scant profit margin at vest was diverted to

to pasture and forest. Natural resources were conserved through erosion control, soil-building, the protection of water resources, and good land use methods.

The entire program was carried on strictly within the framework of the democratic process. The first safeguard of American democracy is the authority of Congress which enacted and may amend or repeal any of the basic legislative acts. Secondly, democratic processes were used in working out and administering all farm programs. Under the Soil Conservation and Domestic Allotment Act, American farmers elect their own committees in agricultural communities, and they assist the county committee and cooperate with all State and Federal officials in working out desirable local changes.

When the granaries fill, farmers decide for themselves through democratic procedure whether marketing quotas enforced by penalties shall go into effect. These quotas fix the quantities of specific commodities that individual farmers may sell free from penalties. This principle has the specific mandate of Congress . A favorable two-thirds vote is necessary, and the principle can be invoked only when substantial surpluses exist. This prevents the coercion of large minorities and tends to delay resort to quotas.

We have already considered the broad accomplishments of such programs up until the National Defense period. The "Ever-Normal Granary became effective for most crops in 1939, and provided huge supplies of grain that were later used effectively for producing the increased quantities of milk, meat, and eggs required by the Lend-Lease Program. Land was meanwhile rebuilt, water conservation and improved grazing practices were promoted, dust-blown soil was revegetated, pasture was improved, higher yields per acre could be derived from cultivated land, yet the total production of crops in surplus was reduced.

Farmers planted trees on 58,000 acres and practiced timber maintenance and timber-stand improvement on nearly 300,000 more. The range-conservation program of 1939 covered 213 million acres, in addition to cropland covered in the conservation program.

Several programs were operating to move surplus farm products from farmers to consumers. The Food Stamp Plan operated through regular business channels and increased the amount eligible low-income families could spend for food by one-half. The Cotton Stamp Plan somewhat similarly gave low-income families the opportunity to use cotton. The Low-Cost Milk Program was making 100,000 quarts of milk available daily to needy families in Chicago alone, priced at 4 ot 5 cents a quart. The School Lunch Program was making it possible to serve noon meals to 3 million undernourished children in over 35,000 schools in low-income localities. This program was being continued throughout the summer for the first time.

The Government was also making direct purchases of surplus farm commodities for distribution to needy families via State welfare organizations. The commodities distributed did not compete with or replace the flow of commodities through regular commercial channels. In 1939, such direct purchase removed a total of 1.7 billion pounds of surpluses for distribution to the needy. The experience here gained in food purchase and distribution became invaluable when the War Food Administration had to buy for lend-lease, and became the greatest food-purchasing and distributing agency in the world. It operated at a 5-million-dollar-a-day rate.

The value of the commodities sold under marketing agreement programs in 1939-40 exceeded 400 million dollars, an increase of 60 millions over the previous year. In 1940 growers in 1,431 counties in 33 States

completed 379,000 contracts for all-risk wheat-crop insurance, paying 14,171,979 bushels of wheat--or cash equivalent--for protection on some 11,926,131 acres. In 1939, about 56,000 farmers had received 10,163,127 bushels of wheat--or cash equivalent--in indemnities for wheat crops destroyed by forces beyond their control.

Up to June 30, 1940, loans had been made to enable more than 13,000 tenants to purchase farms of their own, the position of the average farm tenant in this country being most unfavorable. The antiquated farm leasing system had been improved. It had long fostered a heavy annual shift of tenants from farm to farm, to the detriment of lans, owners, and tenants. Lease improvement was helping stabilize farm people on the land to to extend soil conservation.

In 1940, some 360,015 standard rehabilitation borrowers from Farm Security Administration had increased their average family income 43 percent since they became its clients. They had increased their avefage net worth 26 percent and had added $82,954,656 total wealth to their communities. They were repaying amortized loans ahead of due dates. The FSA had also provided loans for the destitute, had established 26 permanent camps to shelter migratory farm labor, had brought about debt reductions of $87,165,226 for 115,592 farmers who invoked its debt-adjustment service, and had extended group medical care plans to 65,157 low-income farm families.

Farmers had borrowed 8 percent more money through the Farm Credit Administration in 1940 than in 1939. In this fiscal year 32,801 farm-mortgage loans for $86,071,000 were made, and 229,628 short-term production-credit loans were arranged to a total of $328,731,000. The FCA loans on reasonable terms to farmers having collateral.

During the fiscal year 1940, systems financed by the Rural

Electrification Administration constructed and energized more miles of electric lines, and connected more rural consumers, than in any previous year. At the close of this fiscal year 568,000 rural users were being served with electricity as compared with only 100,000 on the same date in 1938. On June 30, 1940, there were energized and in operation 233,166 miles of line, a gain of 104,216 over the previous year. All told 1,872,000 farms were being served.

By June 30, 1939, a total of 48 million acres of farm land in 82,000 farms were covered by 5-year cooperative soil conservation agreements between farmers and the Department, in erosion-control demonstration areas. More than 250 soil conservation districts had been organized under State laws in 37 States, by June 1940.

Improved land use had been brought about on 8½ million acres of submarginal land. Nearly 30,000 ponds had been constructed on range land. About 12 million acres had been purchased or approved for purchase to become additional National Forest reserves, more than 2½ times as much in 7 as in the previous 22 years. Approximately 935,000 acres of National Forest land had been planted with nearly a billion trees.

From May 1, 1933 to January 1, 1940, individual farmers and their cooperative organizations had obtained nearly 6 billion dollars in loans from institutions in the Farm Credit system. The total of the commodity loans made by the Commodity Credit Corporation up to June 30, 1939, was $753,585,953. In addition, impoverished farmers without collateral had been loaned 370 million dollars up to July 1, 1940, by the Farm Security Administration, of which they had repaid nearly 130 millions, indicating the astonishing progress made in their rehabilitation.

Between 1932 and 1939 cash farm income had risen from a little over 4½ billion dollars to over 8½ billions. Farm prices increased from

from 65 percent of the pre-war level to 93 percent, The exchange value of farm products rose from an average of 61 percent of the pre-war level to 77 percent. The number of forced farm sales declined approximately 69 percent and the number of farm bankruptcies 76 percent. The Nation's total farm-mortgage debt was reduced by more than 2 billion dollars from the 1930 level.

By 1939-40 more than 800,000 farm people were helping plan and operate the various parts of the National Farm Program in which 6 million farmers participated. In addition a half-million farmers were regularly reporting on crops, livestock, and weather. Meanwhile defenses against insects and plant and animal diseases and fundamental scientific research continued to progress.

Such, in brief, were the inception, nature, and accomplishments of the National Farm Program. Such was the progress it had made from the beginning until the start of the National Defense Program. It ushered in a new era of American agriculture. It fused farm policy and Department policy and enabled the Department do so innumerable things it had talked about for years. The day had passed when farmers depended upon the Department only for research and educational assistance to aid them in production.

They now had to have help in making national crop adjustments, stabilizing income, conserving natural resources, and improving tenure relationships. The adjustments were far too vast in scope for individuals to make them unaided by Government. Gradually under the National Farm Program new methods were tried and new patterns of service and industry were developed. A permanent system of farming based on scientific knowledge began to appear. The national machinery was built and the plans were made to aid us in years to come. Sufficient progress had already been chalked up to enable agriculture to spring quickly and efficiently to the aid of the Nation during National Defense and World War II.

Certain changes in agencies now in the Department will now be recorded briefly. The Crop Production Loan Office and the Seed Loan Office, established to handle emergency relief loans to farmers and financed by special appropriations were transferred to the Farm Credit Administration in 1933.

Pursuant to the 1935 Agricultural Appropriation Act, the Bureau of Entomology, the Bureau of Plant Quarantine, and the disease control and eradication work of the Bureau of Plant Industry were consolidated into the Bureau of Entomology and Plant Quarantine. The 1938 appropriation act transferred to this bureau the soil-fertility and soil-microbiology work of the Bureau of Plant Industry and the insecticide and fungicide investigations of the Bureau of Chemistry and Soils.

The Office of the Solicitor became a separate administrative unit April 1, 1935, but go its first separate appropriations under the 1937 Agricultural Appropriation Act. This act also transferred fruit and vegetable utilization investigations, concerned with the technology, manufacture, utilization, and preservation of agricultural products and by-products to the Bureau of Chemistry and Soils from the Bureau of Plant Industry. It also ratified the transfer of investigations dealing with pharmacological effects of insecticides from the Bureau of Entomology and Plant Quarantine to the Bureau of Chemistry and Soils, a change actually made in 1936.

When the Soil Conservation Service entered the Department, it assumed bureau status, and soil erosion investigations hitherto carried on by the Bureau of Chemistry and Soils, the Bureau of Agricultural Engineering, and the Bureau of Plant Industry were transferred to it. The activities of various Department bureaus concerned with flood control were drawn together

under a coordinating committee in 1937; these activities had been authorized by the Flood Control Act of June 22, 1936. The Office of Land Use Coordination was established July 12, 1937, and with Milton S. Einsehower at its head, rapidly assumed outstanding policy importance.

Administration of the land utilization program of the Bankhead-Jones Farm-Tenant act was assigned to the Bureau of Agricultural Economics in 1937, by transfer from Farm Security Administration. It was in October 1940, that the Bureau of Agricultural Ecohomics became the Department's primary research and planning agency in the field of the social sciences, and that a Director of Marketing and Regulatory Work was appointed to take charge of the bureau to be known as the Agricultural Marketing Service.

He was given supervision of all marketing research, service, and regulatory work in connection with cotton, dairy and poultry products, fruits and vegetables, grain, livestock, meats, wool, hay, feed, seed, warehousing, and tobacco, and also the Market News Service. Likewise, he had supervision of the Division of Crop and Livestock Estimates, the administration of the Packers and Stockyards Act, the Federal Seed Act, and the Dairy Export Act.

Administration of the Sugar Act of 1937 was placed in an independent Sugar Division by transfer of the Sugar Section from the AAA.

An Associate AAA Administrator, in charge of marketing and marketing agreements, and also serving as President of the Federal Surplus Commodities Corporation, took charge of work in the fields indicated.

Programs under the Cooperative Farm Forestry Act of May 18, 1937, went to Soil Conservation Service. To it also were transferred work on land development and utilization from the Bureau of Agricultural Economics. Meantime basic soils research was consolidated in the Bureau of Plant Industry.

Thus the Bureau of Chemistry and Soils lost its soils work. The remainder was then combined with the Bureau of Agricultural Engineering, which ceased to have independent status, and the consolidation became the Bureau of Agricultural Chemistry and Engineering, and to it were assigned the four Regional Research Laboratories. However, the irrigation and drainage work carried on by the Bureau of Agricultural Engineering was divided and reallocated to the Soil Conservation Service and the Bureau of Plant Industry.

There were other minor changes of ephemeral significance. But the next major changes in the Department's structure and functions, and the last ones before its wartime reorganizations, took place pursuant to the President's Reorganization Plans. Under Reorganization Plan No. I the following changes became effective July 1, 1939:

The Bureau of Public Roads was transferred from the Department to the newly created Public Works Agency. The Farm Credit Administration, including the Federal Farm Mortgage Corporation, became part of the Department. The Commodity Credit Corporation was transferred to the Department, its management being delegated to its own President who was made responsible to the Secretary of Agriculture through his Director of Marketing and Regulatory Work.

Under Reorganization Plan No. II the following changes also became effective July 1, 1939: The permanent foreign offices of the Foreign Agricultural Service were transferred to the Department of State, and the Department's Office of Foreign Agricultural Relations was thereupon established by the Secretary. The Bureau of Biological Survey was transferred to the Department of the Interior, where it became part of Fish and Wildlife Service. The formerly independent Rural Electrification Administration became part of the Department of Agriculture.

Under Reorganization Plan No. III, the following changes became effective June 30, 1940: The Division of Marketing and Marketing Agreements of the Agricultural Adjustment Administration, and the Federal Surplus Commodities Corporation, were consolidated into a single Department agency designated the Surplus Marketing Administration.

Under Reorganization Plan No. IV, the following changes also became effective June 30, 1940: The Weather Bureau was transferred from the Department of Agriculture to the Department of Commerce, though snow surveys and work on the relationship between weather and soil erosion went to the Soil Conservation Service, while certain work on the relations between weather and crops were placed in the Agricultural Marketing Service. The Food and Drug Administration was transferred to the Federal Security Agency, though administration of the Insecticide and Naval Stores Acts was assigned to the Agricultural Marketing Service. Work in the Soil Conservation Service relating to soil and moisture conservation operations, and conducted on lands under the jurisdiction of the Department of the Interior were transferred to that Department.

Certain minor, incidental changes follow: The Office of Land Use Coordination received responsibility for administrative coordination of the Department's flood-control program in late November 1939. On December 1, 1939, the Fertilizer Research Division of the Bureau of Agricultural Chemistry and Engineering was placed in the Bureau of Plant Industry. In January 1940, the Director of Marketing replaced the Director of Marketing and Regulatory Work to coordinate the Department's marketing, distribution, and regulatory work.

As of February 1, 1940, the Consumer's Counsel, formerly in the AAA, was placed under the Director of Marketing and the Sugar Division

was transferred from that agency. Also about this time the Departmental Coordinating Committee was abolished and an Administrative Council was established.

The effort was made to have the Bureau of Agricultural Economics play a key role in the departmental structure. It was to be the main planning agency, as well as the economic fact-finder. It developed plans and programs for the whole Department as a basis for the entire pattern of agricultural, conservational, and marketing services. Actually the plan did not work well in the long run because it was seen that such high-policy matters practically had to originate from the Office of the Secretary. The Agricultural Program Board was to give final consideration to the recommendations made, for administrative feasibility, the chairman and executive officer of this Board being Milton S. Eisenhower.

The structure and functions of the Department and its agencies at that time is shown in Miscellaneous Publication No. 88 of the USDA, as revised May 1940. This publication was prepared by Arthur P. Chew, with the assistance of all Department agencies.

The planned objectives of the Department of Agriculture, as the Wallace administration saw them were: To acquire and diffuse information on subjects connected with agriculture; to assist farmers, through research, experiment, and education, to increase their efficiency, reduce unit costs, improve the quality, and broaden the variety of their production; to achieve a balanced agriculture and improve the balance between agriculture and industry; to promote security for both farmers and consumers by helping to stabilize farm supplies and prices; to aid the family-size farm and improve the land-tenure system; to promote the conservation of soil, water, forests, and desirable vegetation; to regain our agricultural export trade; [redacted] to promote the intelligent

consumption of agricultural products; and to eliminate or prevent social hazards and correct economic abuses by administering a variety of regulatory statutes.

During Secretary Wallace's administration the Department threw out into the field a large number of agricultural adjustment, farm security, soil conservation, and other Federal workers who made direct contact with local communities and individual farmers. It also paid a premium for good information workers, as it found them indispensable, and thus robbed the States of many of their best qualified personnel.

Since such activities had long been the cherished prerogative of the Cooperative Extension Service, an icy air of cold hostility often greeted the new Feds. Many heartaches and controversies arose. Yet, in due time, as always in the past, new and unusual legislative and administrative departures, which were initially denounced as radical and intolerable, gradually won acceptance. Usually, in somewhat modified form, they became wholly legal and acceptable, and even to assume the guise of conservatism. Once congealed into tradition they were safe.

Many other individual activities regarded as the time as wholly unwise or extravagantly wasteful, later gained full acceptance or vindication. Take as an example President Roosevelt's socalled fool idea of planting shelterbelts of trees. No suggestion was ever more bitterly derided. Yet at the very time the suggestion was made, Forest Service experiments had proved that 8 out of 10 trees of definitely known varieties would thrive when planted in the Plains where trees never grew before. Moreover Russia had planted successful shelterbelts as early as 1843, and Hungary and many other countries had later done the same.

The survival rate of the trees actually planted in the heretical shelterbelts was 80 percent by 1944. At that time only 10 percent of them were in unsatisfactory condition, while the remainder had died of neglect or careless planting. Residents nearby were emphastic in praise of what the shelterbelts had done for agriculture by retaining soil moisture and preventing erosion. This was no fool scheme. It was sound, scientific, wise.

A final curious misconception regarding Mr. Wallace should be mentioned. It was generally stated and assumed that he lacked business sense and experience. According to Business Week for May 10, 1945, however, he founded his Pioneer Hi-Bred Corn Company in 1926, when farmers were mighty hard to sell, yet built it to a 4-million-dollar business with 1944 net earnings, after taxes, of a quarter of a million dollars. The company is a skillfully devised close family corporation. Mr. Wallace's annual income from hybrid corn was stated to be $40,000. If that constitutes poor business judgment, what would you call good? Incidentally, Henry A. also had nothing whatever to do with the failure of Wallace's Farmer.

We now turn to Claude R. Wickard, the dirt-farmer Secretary of Agriculture, who met the terrific impacts of World War II.

XII -- Wickard, Dirt Farmer, and World War II

On the resignation of Henry A. Wallace, Claude R. Wickard (1893--), corn-hog farmer from Indiana, who had been serving as Under Secretary of Agriculture, became Secretary, serving from September 5, 1940 until June 30, 1945. Mr. Wickard was born on the family farm settled by his great-grandfather in 1840, near Camden, in Carrol County. Before and after graduating in animal husbandry at Purdue he helped operate this farm. He even continued to do so after he came to Washington, D.C.

Mr. Wickard was elected a member of the Indiana State Legislature. He was also a member of the National Corn-Hog Committee of Twenty-five, which helped draft the original corn-hog program of the Agricultural Adjustment Administration. He was long actively interested in rural electrification, and was one of the first farmers in his State to put electricity to full use on his farm. He also early used hybrid seed corn, and was generally progressive.

In 1935, Mr. Wickard became chief of the AAA corn-hog work. When the agricultural conservation program started in this agency, in 1936, he became Assistant Director of the North Central Region. He was appointed Under Secretary, February 1, 1940. Modest, courteous, congenial, and unassuming, he was well-grounded in the desires and aspirations of the corn-hog farmer. But he served as Secretary for only a little over a year when Pearl Harbor ushered in World War II.

If World War I distorted American agriculture, a global catastrophe like World War II should have annihilated it. That this did not occur is due in the main to the beneficial effects of the National Farm Program. The agricultural industry was now far better prepared to withstand the impact of global war than in Davis F. Houston's time.

An Executive Order issued by the President on December 5, 1942, gave the Secretary responsibility for the Nation's wartime food program, but on March 26, 1943, another Executive Order transferred this responsibility to a War Food Administrator. Often adversely criticized for his conduct of the food program, Mr. Wickard actually performed capably. He accurately foresaw problems and conditions before they materialized, and took intelligent steps to forestall or handle them. But the public set up a clamor for a food dictator or a food czar and President Roosevelt finally yielded.

Executive Orders issued March 26 and April 19, 1943, established a War Food Administration whose Administrator, like the Secretary, was appointed by and responsible to the President. The Department of Agriculture was split into two administrative units and divided between them. Largely because Mr. Wickard was the kind of person to cooperate cheerfully, this did not result in the controversy and confusion that might well have been anticipated. The personalities of the top-layer officials--especially the genial Grover Hill, who was both Under Secretary of Agriculture and First Assistant War Food Administrator--prevented the alliance from becoming incompatible.

On March 29, 1943, Chester C. Davis, formerly AAA Administrator, became the first War Food Administrator. But he resigned June 28, 1943, on a point of policy. He was almost immediately succeeded by Judge Marvin Jones, who had been a leader in the House of Representatives when the New Deal farm legislation was being enacted. He served until the War Food Administration was recombined with the Department of Agriculture by an Executive Order effective July 1, 1945. At this time Mr. Wickard became head of the Rural Electrification Administration, Representative Clinton P. Anderson became Secretary of Agriculture, and Judge Jones returned to

the bench. Mr. Jones' acquaintance in Congress, his practical knowledge of its procedures, and his political acumen, proved of great value to the war food program.

Mr. Wallace headed into a storm of depression when he became Secretary, Mr. Wickard into a storm of world conflict. Indeed his very first annual report to the President, though dated November 1, 1941, appeared somewhat later than that, and carried an introductory notation regarding our involvement in World War II by Japan's attack.

When Mr. Wickard assumed office, however, we had every reason to believe that our "export market" must be right here at home for some time to come. New devices were still being sought for sharing our profuse production of farm commodities among the "underprivileged" without it looking too much like a straight gift. In fact, the new Secretary said that we should now exercise the same industry and ingenuity in using our farm output wisely that we had in learning how to increase yields manyfold.

The National Defense Program was already operative. Our exports of cotton, tobacco, fruits, grains, and pork had all but vanished. But a great change was to come after the Lend-Lease Act was approved, March 11, 1941. Then we began to export foods we had rarely exported before, certainly not in large quantity. Fortunately the Ever-Normal Granary was overflowing with animal feed, stored under commodity loans, and it was a simple matter to transform this into the meat --pork especially--milk, eggs, and poultry Britain must have if she were to remain in the war.

But complete reorientation of our agriculture would be required to attain this objective over any long period. Moreover we soon began to have a fats and oils shortage, since our customary imports of these commodities from over the Pacific were cut off. So the mass production of linseed,

soybeans, cottonseed, and peanuts assumed dramatic importance. We also had quickly to undertake more extensive growing of hemp and potential rubber crops than ever before. Farmers were called on for production of new kinds.

Yet, almost abruptly, the traditional pattern of our agricultural output actually was changed under the guidance and exhortation of the Department, plus the material assistance it proffered. Properly directed price incentives were used to stimulate the production of the commodities required in this emergency in the quantity and at the time essential. This could only be done because so many economic and social techniques had been discovered, developed, and utilized during the past decade.

Farmers rose to new heights of efficiency each production year, the Department and its State allies acting as their over-all general staff counsellers and advisers. The Department rapidly became active in such new fields as those of farm labor supply, war plant site selection, the packaging and transportation of farm commodities, aiding farmers to procure supplies and equipment, and finally in the making of wholesale priorities and allocations,

Immediately the Lend-Lease Act was passed the British Purchasing Commission conferred with Department personnel and portrayed for it an agricultural export market of a wholly novel kind. A little later the Department's recent broad experience in purchasing surpluses for the underprivileged began to serve it in good stead, as it bought commodities and shipped them to the docks with funds advanced by the Commodity Credit Corporation, in anticipation of disbursements from lend-lease appropriations. Thus priceless time was saved.

Department thinking was progressive and prescient, as is proved by Secretary Wickard's addresses. When, in November 1940, he stated that the Department was better prepared for the National Defense Program than any other industry, this was the simple truth. The stores in the Ever-Normal Granary backed up his statement, Secretary Wickard also early observed that defense industry would tend to raise consumer income which would, in turn, result in greater demand for food.

So, on December 26, 1940, he issued a special statement to the effect that since the National Defense Program was increasing consumer buying power, farmers would be wise to produce a larger spring hog crop in 1941 than they intended. For a crop 14 percent lower than that of 1940 was then planned. Fortunately the Secretary's statement was heeded and more hogs were produced. On January 15, 1941, the Secretary, in a talk at Purdue, was urging increased soybean production in the Corn Belt. On April 3, less than a month after the Lend-Lease Act was approved, the Department launched its Food For Defense Program.

From then on Secretary Wickard continuously urged the production of more food and farm commodities of specific kinds. He said: "In this war food will be more important than guns",and "food will win the war and write the peace" was his later slogan. Even if the war should end abruptly, he foresaw ample use for surplus food. In spite of this, Mr. Wickard was later accused of failure to warn the country about inevitable food shortages, and of letting those shortages occur in early 1943, without informing the public. A careful reading of his addresses proves this charge unfounded.

Nor did the food shortages ever become what certain prominent citizens said they would when they told us we should literally be starving. The scarcities that developed were in specific foods, precisely as predicted by the Department. Over-all, American civilians ate better during World

War II than ever before in our history, while our armed forces were lavishly fed to the point of extravagance and waste.

But never at any time was Secretary Wickard overoptimistic. Such food-production predictions as he made were always qualified by statements like "barring unusual weather, or other unforseen circumstances." They were based on the assumption that output would follow the patterns requested in the annual goals. As early as September 24, 1941, the Secretary warned it would also be disastrous if the war industries and the armed services seriously depleted the farm labor pool. He also harped on the theme that our farm-production job would not be easy in the midst of critical labor, equipment, and material shortages, urged that many obstacles had to be overcome, and insisted on farmers producing to the limit while they could.

On May 21, 1942, the Secretary told an audience in New York City that we simply could not any longer take our food supply for granted for, to win the battle of food, would be the toughest job we had ever undertaken. He said that domestic shortages of specific foods were inevitable. A month later he said: "The future outlook for our food supply is not so bright as the present picture." He followed a similar vein in his talks throughout the summer of 1942. That July the Department developed a three-point program to ease the meat shortage, and its Voluntary Meat Conservation Program was announced September 1.

On September 11, 1942, the Secretary said in a radio talk that our great wheat supply should no longer be regarded as a surplus, for every pound of food that we had would be needed urgently. We must make the best possible use of all fats, oils, and dairy products available. On September 24 following, he declared that we could very readily run short of food, and that 1942 was "only the starting point for demands on our food supply." On October 5, he recommended reduced domestic consumption of

certain essential foods, insofar as this would not be detrimental to health.

Certainly the Secretary and the Department issued warnings in abundance. Anyone who suddenly woke up to the fact that there would be selective food shortages only by January 1, 1943, simply had not read the papers or listened to the radio. On the other hand the prophets of doom who shouted we should be starving in the streets by early 1943 were proven hopelessly wrong by the simple logic of events.

Returning now to Secretary Wickard's first annual report, for fiscal year 1941, it naturally dealt extensively with the impact of the National Defense Program and World War II on American agriculture, Farm production goals for 1942 had been worked out by the experts in certain knowledge that incomes and demand for farm commodities would rise sharply, while it was also clear that much of the labor so long dammed up on farms would tend to enter defense industries.

The very determination of these goals, announced September 8, 1941, was a complicated job of planning proficiently performed. All such factors had to be taken into consideration as foreign and domestic demand, supplies and machinery, fertilizers and insecticides, container materials and labor, our own national nutritional requirements, the seasonal and biological obstacles to crop production, credit, transportation, and storage facilities.

The farmers had responded nobly to Secretary Wickard's early request for a larger spring pig crop. Actually our 1941-42 per capita food consumption was the greatest in our history. When the Food For Defense drive was launched April 3, 1941, it was announced that, until June 30, 1943, the prices of dairy products, hogs, chickens, and eggs would be supported under the Steagall Amendment to the June 11 act extending the

life of the Commodity Credit Corporation. These were not originally basic crops but from now on certain crops would be proclaimed as such by the Secretary when there was wartime need for them.

The mechanism used was to set the prices for Government payment when purchasing such commodities for lend-lease or such purposes. Thus farmers were provided a strong monetary in addition to a patriotic incentive to produce requirements. Probable requirements were also more precisely determined even this early.

On May 6, 1941, encouragement was offered for increased production of white beans, tomatoes, and certain other products. Already the Rural Electrification Administration and the Forest Service were heavily engaged in defense activities. The same was true of the Bureau of Agricultural Economics and the Department's scientific agencies.

To lend further support to basic crops and, at the same time, improve the adjustment of output to the available market, Congress passed legislation in late May 1941, to make loans available on 1941 crops of cotton, corn, wheat, rice, and tobacco at 85 percent of parity, providing marketing quotas for these crops were approved. The same legislation redefined marketing quotas for wheat and corn, and increased to 50 percent of the basic loan rate for AAA cooperators, the penalties for marketing corn and wheat in scess of quotas.

The measure extending the life of the Commodity Credit Corporation was imperative. Its financial resources were increased and the Secretary was directed by the Steagell Amendment to encourage the production of nonbasic crops by the use of price incentives.

On May 5, the President requested that there be created in the Department an Office for Agricultural Defense Relations. It was organized immediately in the Office of the Secretary. Up until then Agriculture's

direct representation in the national defense organization had consisted of its one place in the National Defense Advisory Commission.

On July 5, 1941, USDA Defense Boards were established in every State and county of the Nation. They consisted of representatives of all Department agencies having field employees in those States and counties, under the chairmanship of the AAA's top official. Their special function was to obtain the full cooperation of all Department field personnel in all defense undertakings. They headed up under a Department Defense Board in Washington. In December 1941, as will be detailed later, the Secretary reorganized his administratively sprawling Department to streamline it for the war effort.

In the same month goals were announced for the 1942 pack of the principal vegetables canned commercially--tomatoes, peas, corn, and snap beans. The Department then fixed the prices at which it would purchase packs from processors for Government use. It promised to buy only from processors who paid growers specific rates for their crops. Finally, the National Garden Conference was held this month. It launched a mighty national effort to promote the home production of food to save transportation and processing facilities. A huge increase in Victory Gardens was urged and, in 1947, achieved.

During 1941 the Department also began to take part in the accumulation of strategic materials, to find new defense uses for farm and forest products, to provide engineering aid to the armed forces, and to help select locations for defense industries and military and naval reservations. A far-reaching nutrition program was undertaken in the foreknowledge that all our people must have health-promoting diets to meet the

emergency, and that we must also provide much food for our potential allies in a war certain to involve us. We entered that war enormously better off than if no National Farm Program had been undertaken.

Secretary Wickard's second annual report covered the fiscal year 1942. Submitted December 1 that year, it carried a foreword announcing that farm production above all expectations was agriculture's answer to the Food For Freedom call. This slogan, later changed to Food Fights For Freedom, in line with Mr. Wickard's repeated statement that "food will win the war and write the peace," was adopted as the wartime slogan for greater farm production. The campaign was eminently successful, Year after year farmers produced all-time record crops, despite critical shortages. Acre yields were consistently improved, and the output pattern closely approximated that requested.

Great Britain's 1941 request for high-protein foods had now evolved into a full-fledged program of planned food production to give our own people their nutritional requirements, while providing amply for our armed forces and our allies. Farmers were exhorted to maximum production regardless of difficulties. The farm production goals were hastily revised in the light of Pearl Harbor and reannounced January 16, 1942. They were later very largely achieved. The most important element in the resurvey was far higher goals for soybeans, flaxseed, peanuts, and cottonseed to process for replacement of our lost Pacific imports,

On June 5, 1942, a Food Requirements Committee was named by the Chairman of the War Production Board, with the Secretary of Agriculture as its chairman. This committee was to have control over the production and allocation of all civilian and military food supplies. Indeed it

was intended to have been a centralized body with power to direct and handle wartime food problems in close coordination with other war production programs.

On June 9, the White House announced the appointment of a Combined Food Board composed of the Secretary of Agriculture and the head of the British Food Mission, Its function was to effect planned, expeditious utilization of the food resources of the United Nations.

Through what were now the State and County War Boards the Department gave farmers technical aid; arranged price supports and made money payments; offered assistance in securing labor, supplies, equipment, transportation, and storage facilities; and generally assisted them to fulfill their individual goal pledges. Each Department agency did its utmost for the cause. Food conservation was stressed, scarce foods and materials began to be allocated, and a research food-dehydration program soon founded a new and enormous industry, resulting in great savings of storage and cargo space, so that we could ship real food value abroad more rapidly than ever.

Many new responsibilities were assumed by the Department. It perfected an improved process for making butylene glycol in the manufacture of synthetic rubber and undertook a guayule and a Russian dandelion rubber-production project. It carried on a program which enabled canners and food processors to operate at capacity. It devised the Victory Food Special program to concentrate consumer demand on products temporarily in abundance. It developed a pricing, processing, and marketing program for oil crops. It issued a flood of orders governing the sale of farm machinery and equipment.

Naturally all these varied activities invested the Department with even more authority and importance than it had ever possessed before. It began to touch the lives of every citizen in assuming its critical wartime role. It became a board of general strategy for the entire farm industry, working under new conditions to inventory our production potentialities under quickly varying circumstances, to induce individual farmers to achieve specific goals on crops desired, and to take an increasing part in distribution of the farm output. Parity was soon achieved on all important crops. Prosperity returned to the farmers who could embrace the opportunities offered. But consumer purchasing power continued to expand faster than goods.

An Executive Order dated December 5, 1942, delegated to the Secretary of Agriculture authority to assume charge of the Nation's wartime food program and also authorized certain changes in departmental organization to be discussed later, which were made December 10. Under this Executive Order the Secretary was authorized to:

> Determine the direct and indirect military, other governmental, civilian, and foreign requirements for human food and animal feed, and for foods used industrially; formulate and implement a program to supply food adequate to meet the requirements, allocating the Nation's farm production resources as needed; assign priorities and effect proper distribution of the available food supply; make recommendations to the Chairman of the War Production Board covering the quantities and types of nonfood materials, supplies, and equipment required to carry out the program; jointly determine with the Chairman of the War Production Board the division to be made whenever the avilable supply of food proved insufficient to meet requirements; determine the need and amount of food available for civilian rationing, exercising priorities and allocating powers through the Office of Price Administration; collaborate as necessary with other agencies concerned with the foreign aspects of the food program; in the event of a shortage of domestic transportation service, make recommendations to the Office of Defense Transportation, after consultation with the War Production Board. A little later the Secretary was also given full responsibility for agricultural manpower.

Obviously possession of such wide powers greatly changed the Department's functions, gave it novel responsibilities it had never before

handled, and expanded its influence. A few days later the Secretary appointed a representative committee with members inside and outside the Department to consult with and advise him on carrying out the provisions of this momentous Executive Order. The Food Requirements Committee of the War Production Board, of which the Secretary had been Chairman, but which had never functioned effectively, was then abolished.

Even at this time some feared the accumulation of food reserves, a fear that reached panic proportions towards the end of the war. But Secretary Wickard instead said we could never have too much food and suggested storage of any surpluses. He knew they would meet with post-war use and he believed such stockpiles would speak loudly at the peace table as well. He also felt that "contimuation of our exports to Europe even on a gift basis would be a worthwhile investment for us, if it helped stabilize the post-war world. It might lay a foundation for cooperative and constructive international trade relationships hereafter."

Secretary Wickard had expressed similar sentiments even before we were actively engaged in the war. They were predicated on Hitler's defeat, of course. While our first care was to see that our own people had a healthful diet, we early learned that Britain must also be fed else she lose morale and fall before the Nazis. Later we sent huge quantities of food also to keep the Russian Army in the war. But false prophets abounded to predict that we should literally starve ourselves in this effort.

Neglectful of the fact that a third of our population had been underfed for years, and that food shortages were always endemic among us, many of us clung to the myth of contimuous food abundance. This was so firmly fixed in our minds that we simply could not imagine facing empty grocery-store shelves while we had dollars in our pockets. Yet just that was to occur. The selective shortages the Department predicted materialized.

This occurred because our purchasing power expanded to the point where all of us could buy the food we needed and desired, and there were elements of greed and hoarding in the picture as well.

The Government sought to increase food supplies for civilians, to protect consumers from severe price rises, and to formulate programs for allocating supplies to cover civilian needs whenever shortages threatened. The Department never predicted that we should all have all the food of all kinds we wanted to eat; it did maintain against the starvationists that we should have a healthful and nutritious diet, though possibly composed in considerable part of alternative foods to those usually eaten to procure certain nutritive elements.

The premonition of inflation was early present. As we merged more deeply into the war, civilian goods production had to be sharply curtailed. But incomes had greatly increased, bond-buying and increased taxation did not take up the slack, and consumers therefore purchased more abundantly the relatively few things they could still procure--among which food was prominent. As observed earlier, the three-point program to alleviate meat shortages had to be announced July 23, 1942.

To try to bring things into line the prices paid by the Department in purchasing meat for lend-lease were reduced. Local adjustments were made to bring prices into line with the actual operating costs of small packers. Plans were formulated to enable certain packers to continue in operation when they could otherwise have had to suspend. Then the Voluntary Meat Conservation Program was invoked two months later.

On August 7, 1942, the Department and the War Manpower Commission announced a joint program to aid in supplying that scarce commodity, farm labor. The program was assigned to the Farm Security Administration, the War Boards, and the U. S. Employment Service. It included such items as

paying the transportation of farm workers for distances exceeding 200 miles, so as to get them to the job; standard minimum wages; education for the efficient use of labor in wartime food production; the utilization of much imported labor; housing and medical-care features. Domestic farm workers were likewise transported free into areas of serious labor shortage.

Concerted efforts were made to retain experienced operators on farms, to persuade industry to recruit its labor in cities, and fully to utilize all underemployed workers on small family farms. This developed into a huge program which finally took all farm people out into the field, even the women and children, as well as nearby school children, college students, businessmen and white collar workers in such time as they could spare. Next the War Manpower Commission announced its broad plan to stabilize employment on dairy, livestock, and poultry farms, and local draft boards were instructed to grant the necessary deferments for such labor.

On November 10, 1942, the War Manpower Commission issued a Directive to Government agencies effectuating its program of recruiting, conserving, and training labor for such farms. Recruits were trained at State colleges of agriculture and then placed. The U. S. Employment Service cooperated in selecting families which were to be removed from small or nonproductive farms where they were not needed. Even then the labor problem continued to plague farmers.

Yet, regardless of labor scarcity and of the fact that untrained workers of both sexes, who also lacked the physical stamina and optimum age required for highest efficiency, had so largely to be depended upon, production bounded ever upward. On January 20, 1943, the requirements for agricultural deferment were liberalized by the Selective Service Bureau.

Unified responsibility for supplying farm labor for war production was delegated to the Secretary of Agriculture by the chairman of the War Manpower Commission, five days later.

Then, on February 14, 1943, a program was announced designed to mobilize 3½ million year-round, seasonal, and emergency workers for farmers. The Secretary established an Agricultural Labor Administration in the Department on March 1, but the War Food Administrator was appointed before it really began to function. Thereupon responsibility for farm labor went to the War Food Administration, and the Administrator established an Office of Labor therein on June 23, 1943. We have run ahead to complete the labor story to this point.

We return now to Secretary Wickard's annual report for fiscal year 1942. The Office for Agricultural Defense Relations had now become the Office of Agricultural War Relations. It acted as liaison between the Department and all other Governmental war agencies. Its main jobs were to relate farm production to military, lend-lease, and civilian needs; to provide basic data for the formulation of farm production goals; and to analyze agriculture's needs for machinery, fertilizer, insecticides, and labor, in the light of other war requirements.

In this report the Secretary liberally discussed the role of food in modern war and combined food strategy. Other interesting sections concerned fuel for farm traction, the pressure on storage facilities, the sharing of mixed fertilizer components, the farm labor supply, lend-lease and other distribution operations, and the Victory Garden Campaign. The last assumed great Nation-wide importance and finally provided the greatest mass practical application of information developed by plant research in the entire history of the world. Production of crops and livestock during 1942 displayed remarkably close adjustment to national requirements.

Temporary and usually localized gluts of certain foods and crops were foreseen at this time. The Victory Food Special program was devised to focus consumer attention on such commodities. Thus waste was prevented and foods needed by our armed forces and our allies were conserved.

Price support had been offered to enable canners to operate at maximum capacity. The program now covered 16 vegetables instead of only 4 as at the start.

The Agricultural Research Administration began its all-out program to assist the food-dehydration industry in June 1942. Striking results were obtained, based mainly upon painstaking peacetime research fortified by hasty wartime studies, as was so much of our wartime program. More than 1.4 billion dollars worth of dehydrated vegetables, fruits, and eggs were purchased for the armed forces and lend-lease during the war, of which at least 500 million dollars worth must be credited to the availability of the research findings and their prompt industrial application.

Before Secretary Wickard's third annual report was submitted, the War Food Administration had been created in response to public demand for a food czar. In characteristic manner President Roosevelt gave the public something new enveloped in something old. This report dated December 1, 1943, has been in part anticipated when we traced out the farm labor story.

During 1943 both farm food production and total farm production set another all-time record. Total food production was 5 percent greater than in 1942 and 32 percent above 1935-39. The Department and the War Food Administration regarded food as a munition of war. Selective crop expansion continued, but demand always exceeded supply, due to increases in our armed forces, in the demands of our allies, and in domestic purchasing power. Allocation of food to supply all these needs became a

major problem, along with efforts to facilitate its production, processing, storage, and transportation. But the 1943 production goals were being achieved while those for 1944 were developed.

The problem of price stabilization commanded much attention. Expanding interests of the Department are clearly indicated by such section heads in the annual report as: The World's Food and American Agriculture; United Nations Food Conference; The World's Nutrition Problem; and Our Own Nutritional Status. Control of inflationary land values and price trends offered constant problems. The Commodity Credit Corporation had again greatly expanded its operations in response to wartime needs.

Government food procurement had stepped up enormously. In the fiscal year 1943 the Commodity Credit Corporation loaned farmers $806,103,000 on basic and proclamation crops, bought 2.5 billion dollars worth of products in domestic and foreign markets, and sold 2.8 billion dollars worth of commodities under lend-lease and domestic use programs. Operations ran at a rate of 5 million dollars a day; inventories ran into billions. Rationing had been then been applied to a number of foods.

On February 15, 1944, War Food Administrator Jones issued a document on the food program for 1944. Therein he discussed the food problem as a whole, the requirements to be met, the increase in farm production since 1939, the farm production policy, and the 1944 farm production goals. Sections were devoted to price support and stabilization activities, foreign food procurement, food distribution, farm labor, materials and facilities, the wartime fishery program, the world food situation, and the role of the individual citizen in all programs.

Quite obviously the old Department of Agriculture was now geared to operate far more comprehensively than in World War I; Isaac Newton of Civil War days, would have been astounded if he could have seen this.

Its activities far exceeded those it had carried on under Secretary Wallace, and they literally embraced the world in scope.

Yet they were all based on the vast reservoir of scientific knowledge accumulated over long years of research in the natural and social sciences, and on experience long since gained in custodial, regulatory, financial, and administrative procedures. Hence the Department could operate more objectively, certainly, and scientifically than the numerous war agencies which sprang up like fungoid growths, and had to find out how to exercise their functions and educate their staffs as they went along. Naturally they got into frequent and often serious trouble through basic lack of know-how.

In late August 1942, a pricing, marketing, and processing program was announced for the major oil crops. This implemented a price support program announced earlier to induce farmers to increase their output of cottonseed, peanuts, soybeans, and linseed.

The Department was deeply involved in the distribution of farm machinery and equipment, as it had been delegated authority to ration them. It also held heavy responsibilities for aiding farmers to secure fertilizers, insecticides, and storage and transportation facilities. It and the WFA named the foods to be rationed.

The Price Stabilization Act was approved October 2, 1942. Five days later the President had authorized the Secretary to increase Commodity Credit Corporation's loan rates on cotton, tobacco, rice, and marketing-quota peanuts from 85 to 90 percent of parity. A week later the Department divided vegetables into essential and nonessential, on a basis of their nutritive value, and set out to increase production of the former while decreasing that of the latter. It had a hand in everything.

Criticism of the National Food Program now became strident. But search of the record discloses that the Secretary and the Department had not only told the truth about the food situation, they had taken wise actions. Repeated warnings were issued about inevitable shortages and the fact that we should have to utilize substitute foods. Naturally Department thinking underwent an evolutionary process but it was never wrong-headed.

It had originally appeared that we possessed enormous food surpluses. We had always had them. We believed we always would. Our lost export market seemed menacing as the war extended. When the first hurry call came for high-protein foods it did appear that we could easily turn all the feed we wished into meat, eggs, chickens, cheese, and milk--but civilian purchasing power kept growing. Our per capita food consumption in 1941-42 rose 8 percent above what it had been in the 1928-29 boom period.

In the 1938-42 period our per capita consumption of agricultural products was considerably greater than it ever had been in any 5-year period. True, we hung up an all-time food-production record in 1942, outstripping that of 1933 by 28, and that of World War I production year 1918 by 42 percent. Our food production was 8½ percent greater during 1933-42 than during 1923-32, but increased consumption overcompensated.

The Food Stamp Plan was suspended March 1, 1943. Thereafter orders rapidly followed one another all concerned with the total supply of various commodities and efforts to reserve such portions thereof as would be needed by civilians, the armed forces, and our allies. Machinery was established to deal with local food shortages arising from maldistribution of supplies. Increased acreages of various crops were requested and production payment or loan programs formulated to lend incentive.

The Regional Agricultural Credit Corporations were resurrected to provide additional credit for crop production.

Almost daily supplemental price-support programs were announced to increase the output of crops especially needed during the war. On February 5, 1943, a program of special advances was announced to encourage the additional production of specified war crops and to insure producers against loss on high-risk crops, crops they would not otherwise have undertaken to grow or had not grown before. The required advances were extended through the County War Boards and the Regional Agricultural Credit Corporation.

An Inter-agency Food Procurement Committee was appointed on February 9, 1943, consisting of representatives of the principal Government agencies purchasing food for war purposes. On February 23, there was announced the joint program of the Department and the Office of Education to recruit over a half million Victory Farm Volunteers among nonfarm youth to work on farms during the spring and summer. On March 8, it was announced that a Certificate of War Service would be awarded farm families enlisted in the food production campaign.

But that spectacle of full pockets and empty shelves was just in the offing. Yet the poor and the needy had been rationed for years, for they never have had sufficient ration coupons in the form of dollar bills to purchase their food needs. Throughout late 1940 and all of 1941 farmers were exhorted to produce more food, and the Secretary was reiterating that food would be more important than guns in this war.

The Department was ever alert also to caution farmers that they would find it increasingly difficult to step up production as the war grew more intense, hence they should produce just as much as possible right now while it was relatively easy. But never did the Department or its Secretary promise the public all the luxury foods they wanted all the time.

The clamor and dissatisfaction with conditions were largely inevitable since so many Americans could not realize that global war meant sacrifice. Yet the establishment of the War Food Administration in response to that dissatisfaction was a singularly economical and intelligent operation, because it made direct use of the Department's well-trained personnel and its staff agencies. WFA simply moved in and took over the larger fraction of the Department, leaving the Secretary in charge of the Agricultural Research Administration, the Forest Service, the Farm Credit Administration, and the Rural Electrification Administration.

Before considering the War Food Administration in more detail suppose we glance at Secretary Wickard's final annual report, that for fiscal year 1944. Its was dated December 1 of that year and its first subhead ran, Agriculture Looks Towards Winning the Peace!; its second, Main Problems in Agricultural Reconversion. Already devices were being considered to maintain a high post-war demand for food and, curious as it may seem in retrospect, there was considerable fear that the war might end and leave the Government with huge food supplies destined to go to waste!

Yet plans were being made to continue all-out food production on the assumption that full employment would prevail at least in the early part of the post-war period. But domestic agricultural planning must at this time take the earth into consideration. Science had shrunk distances and the bell now tolled for all. Agriculture had to be considered not only in relation to domestic needs and the status of industry, but in the light of world finance and the plans of the United Nations.

The world organization of agriculture stems from the meeting of the United Nations Food and Agriculture Conference at Hot Springs, Va., in May-June 1943. There the constitution of the Food and Agriculture Organization began to be hammered out. The food problem of continental Europe

after liberation became our problem. The same was true later of Japan. But the self-evident fact that liberated Europe would require tremendous quantities of food began to quell fears that it would waste here.

Food conditions in the Far East, especially in Japan, also won consideration. Cooperation with Mexico and the other Latin American countries was stressed in this final Wickard report. Post-war prices, the handling of our food reserves, and the termination of wartime controls all evoked concern. Other problems that excited comment were the upward trend in farm mechanization, rural health, sanitation, and safety, and farm housing.

The wartime activities of the Commodity Credit Corporation had been stupendous. That they could have been carried on by low-salaried officials, none of them paid in excess of $10,000 a year, without major scandal or gigantic peculation speaks well for the probity and integrity of hundreds of undersalaried Government employees. Its subsidy programs, which had so much to do with preventing drastic rises in food prices, cost in the neighborhood of 2 billion dollars.

The five principal functions of the Corporation were: To make loans to farmers on products stored on farms or in warehouses; to sell unredeemed loan stocks as an aid in the production of food and other supplies--which became of immense wartime importance; to support prices to farmers and help maintain price administration ceilings; to acquire and distribute supplies of farm commodities required in war production--especially those essential to offset reduced imports; and to acquire surplus farm commodities produced in foreign countries friendly to us.

From its creation in 1933 through June 30, 1947, the Corporation showed a net gain of $276,727,300 on its loan and purchase programs. This

includes gains of $201,361,800 on cotton and $224,997,400 on a long list of miscellaneous commodities, less net losses of $49,204,000 on wool and livestock, $14,077,600 on grain, and $86,350,300 on fruits and vegetables. These figures relate only to socalled operations programs, not to essential wartime subsidies. Time after time these operations increased the production of essential crops, or took pressure off stocks of these being too rapidly depleted.

The final report of the War Food Administrator was submitted to the President June 30, 1945, the day before the Administration and the Department were recombined. It dealt with the food programs and problems of 1943-44, with support prices, farm production, the war food distribution job, storage and transportation, farm labor, and many other minor but significant activities. As stated therein: "Farmers of the United States set an all-time production record in each of the war years, up to and including 1944." The same held true for 1945.

In the 1943-44 fiscal year, the War Food Administration purchased about 13 billion pounds of food items, the f.o.b. cost of which was nearly 3 billion dollars. In the 1944-45 fiscal year the respective figures were 11 billion pounds and 1,362 million dollars. During both years the War Food Administration's daily food bill averaged $3,784,115, though it topped 5 millions daily at times.

In the 1935-39 period we used 97 percent of the food we produced at home and shipped out or exported only 3 percent. In 1944, civilians at home got only 80 percent, our armed forces got 16 percent, another 6 percent was purchased for lend-lease, and the remainder covered other exports and shipments. In 1945, the figures were 77 for civilians at home, 16 for the armed forces, 5 for lend-lease, and 2 percent otherwise exported or shipped out of the country.

Our wartime civilian food consumption averaged above that for the 1935-39 period in every year from 1940 through 1945 by as much as from 2 to 10 percent. The only foods which fell slightly below 1935-39 levels of consumption were fats and oils in 1945, fresh and processed fruits in 1942 and 1943, potatoes, sweetpotatoes, and sugars and syrups especially in 1943 and 1945, and coffee, tea, cocoa, and spices in 1942 and 1943. The Department and the War Food Administration handled a tremendous job with signal success. It included storage, packaging, transportation, containers, food-processing equipment, farm equipment, and the supply, housing and medical care of farm labor.

The frequent reorganizations of the Department and the War Food Administration excited much ribald and adverse comment and often did appear ludicrous to outsiders. The process did seem ridiculous on one occasion when a new agency was abolished before the date of its effective creation rolled around. But the war constituted the most gigantic emergency the world had ever known. The situation changed daily, even hourly. Reorganizations had to be made whenever new crises occurred or something novel had to be undertaken. They were not ordered whimsically.

It was fortunate that the two agencies remained in as fluid a state as they did and that realignments to meet new problems could be so readily effected. It was all within the family; major operations and objectives were not disrupted. The first general reorganization was ordered by Secretary Wickard, December 13, 1941, to streamline the Department for war, and was validated by an Executive Order dated February 23, 1942. The organization was designed, like many before it, to curtail the number of agency heads reporting to the Secretary.

In this instance three large administrations were formed. The Agricultural Research Administration was created by grouping together the Bureaus of Animal Industry, Dairy Industry, Plant Industry, Entomology and Plant Quarantine, Home Economics, Agricultural Chemistry and Soils, and the Office of Experiment Stations. Into it also went the nine Bankhead-Jones Laboratories and the Agricultural Research Center at Beltsville, Md.

The Agricultural Conservation and Adjustment Administration was created by combining the Agricultural Adjustment Administration (or Agency) as it soon became), the Soil Conservation Service, the Federal Crop Insurance Corporation, and the Sugar Division. Finally, the Agricultural Marketing Administration was created by combining the Surplus Marketing Administration, most of the Agricultural Marketing Service, the Commodity Exchange Administration, and the Consumers' Counsel Division of the AAA.

The Agricultural Marketing Service was a service and regulatory agency concerned with many phases of marketing farm products. It collected and disseminated crop and livestock statistics; gathered and reported current marketing information from terminal markets; inspected and standardized farm and food products; performed research and demonstrations in standardization, grading, preparation for market, handling, and related phases of marketing; administered rules of fair play in merchandising farm commodities; and enforced a dozen or more regulatory acts.

The Commodity Credit Corporation, Farm Security Administration, Farm Credit Administration, Forest Service, and Rural Electrification Administration remained unaffected.

The next general reorganization took place five days after the Secretary had been delegated authority to handle the wartime food program, December 10, 1942.

At this time a Food Production Administration was formed by combining the Agricultural Conservation and Adjustment Administration--except the Sugar Agency, Farm Credit Administration, Farm Security Administration, the part of the Office of Agricultural War Relations concerned with production, and a division from the Bureau of Agricultural Economics. A Food Distribution Administration was also formed by consolidating the Agricultural Marketing Administration, the Sugar Agency, certain regulatory work from the Bureau of Animal Industry concerned with meat inspection and enforcement of the 28-Hour Law, and that part of the Office of Agricultural War Relations concerned with distribution. At the same time some personnel and functions were transferred to the Department from the War Production Board.

The staff agencies were not affected by either reorganization. The following line agencies were unaffacted by the second reorganization: Agricultural Research Administration, save for the loss of a few Bureau of Animal Industry functions; Commodity Credit Corporation; Forest Service; and Rural Electrification Administration.

The next step was taken in response to the Executive Order which transferred to the War Food Administrator powers, functions, and duties conferred on the Secretary of Agriculture in connection with the wartime food program, December 5, 1942. This constituted an administrative grouping of the Department line agencies into two separate but closely coordinated units, each of which was headed by an official appointed by and responsible to the President. The staff agencies served both units equally.

The Secretary of Agriculture was then left in charge of the Agricultural Research Administration, Farm Credit Administration, Rural Electrification Administration, and Forest Service. The War Food Administration simply took over the remainder of the Department.

Grouped therein were the Food Production Administration--except for the Farm Credit Administration, the Food Distribution Administration, the Commodity Credit Corporation, and the Extension Service. The last was essentialas it had been throughout the National Defense Program, for it was unequalled in ability to transmit facts, advice, guidance, and general program information to individual farmers rapidly and efficiently.

Whem on April 30, 1943, the War Food Administrator announced that the Administration would administer the farm labor program, the Director of Extension was made responsible for mobilizing farm labor within each State and for placing all workers on farms to meet local needs. Responsibility for the supply and distribution of foreign labor, and of domestic labor moved from one State to another, was given to a Director of Interstate and Foreign Labor. Later a Deputy War Food Administrator was appointed to supervise both programs,

During 1943 special offices and boards to deal with materials and facilities, meat, labor, and transportation were established. An Office of War Board Services acted as liaison with the State and county war boards. On October 29, 1943, announcement was made of reconstitution of the Combined Food Board with the War Food Administrator as the American member, the Secretary of Agriculture as Chairman, and a Canadian in addition to the British member. Committees in wide variety were appointed and abolished as required.

During 1944 an Office of Price was created to deal with the approval of maximum prices and price supports for agricultural commodities. Also the Soil Conservation Service, Agricultural Adjustment Agency, and Farm Security Administration became independent semiautonomous units within the War Food Administration.

The Food Production and Food Distribution Administrations were renamed Offices to avoid the confusion of having administrations within an administration. Finally both were abolished before the end of 1944, the former being absorbed by the Agricultural Adjustment Agency and the Soil Conservation Service. As to the latter, the Commodity Credit Corporationwas given responsibility for basic commodities and for supply, while the Federal Crop Insurance Corporation became an independent agency under the War Food Administrator.

Changes in the Department proper were slight during this time. But in February 1943, the Bureau of Home Economics took over some additional nutrition work and became the Bureau of Human Nutrition and Home Economics. The Bureau of Agricultural and Industrial Chemistry, which lost that nutrition work and also its work in agricultural engineering, became the Bureau of Agricultural and Industrial Chemistry, and was in the main composed of the four big Regional Research Laboratories created by the Agricultural Adjustment Act of 1938. Finally, the Bureau of Plant Industry, which absorbed the work in agricultural engineering became, God wot, the Bureau of Plant Industry, Soils, and Agricultural Engineering.

Thereafter changes were slight, and confined to the War Food Administration. But criticism of the national food program continued unabated, Americans being unaccustomed to doing without.

A committee of the House of Representatives, under the chairmanship of Clinton P. Anderson of New Mexico, began to investigate the food situation. Its report proved to be singularly accurate and objective. As a result, and almost before he knew it, Representative Anderson found himself Secretary of Agriculture by appointment of President Truman.

During the war many new discoveries and techniques, ranging all

the way through the natural and the social sciences, which had resulted from research but were restrained from full application by the long depression, at last came into their own. Now they could be utilized practically at top efficiency. These including such diverse items as the following:

Better plant and animal varieties; improved protection from insect pests and plant and animal diseases; expanding mechanization; finer methods of cultivation and fertilization; increased storage of fertility in the soil by the spread of water, soil, and forest conservation methods; the home-demonstration invention of the Extension Service; the novel farm security device of supervised loans which combined funds and expert farm and home guidance in one package; the skilled use of price incentives and economic manipulations to ensure the production of essential crops when and as needed -- and many others.

The principal legislation approved during the term of Secretary Wickard was: Various acts validating defense measures, price supports, and loans on farm commodities -- notably the ones approved July 1, 1941 and October 2, 1942; the Lend-Lease Act of March 11, 1941; the First War Powers Act of December 18, 1941, and the Second of March 27, 1942; the Emergency Price Control Act of January 30, 1942; the Serviceman's Adjustment Act of June 22, 1944; the Stabilization Extension Act of June 30, 1944; the War Mobilization and Reconversion Act of October 3, 1944; the acts continuing the Commodity Credit Corporation; the act liberalizing the Federal Farm Loan Act, approved June 30, 1945; the act continuing until June 30, 1946, the Emergency Price Control and the Stabilization Acts; and numerous Executive Orders which affected the Department's structure, functions, and responsibilities.

Despite adverse criticism the Department's wartime organization worked exceptionally well for the purposes intended. The War Food Ad-Administration and the Department in general functioned together amicably and efficiently.

But, as peace approached, the War Food Administrator himself saw the need of reconsolidation and unification. He therefore suggested this in his letter of resignation and returned to the bench. Secretary Wickard was appointed to head the Rural Electrification Administration. Representative Anderson's sound and sensible food investigation report bore fruit and he became Secretary of Agriculture.

XIII -- Aftermath of World War II

The history of the Department of Agriculture and of agriculture in the Nation follow the pattern of the country's history. For many years agricultural policy outside the Department was one thing and that inside another. But the policies first infiltrated then completely merged in the Wallace administration. Since that time they have remained essentially one, the Department and the agricultural industry moving together.

Each war, even the war with the depression, stimulates departmental expansion and its entry into new fields from which it never completely withdraws. There is retrenchment when peace comes, but always certain new functions are consolidated into the permanent and accepted structure of the institution. They then become part of the American tradition.

By the end of World War II the Department urgently needed reorganization. This was not because its top staff was disorderly but rather because the unique wartime emergency, with its hourly changing status, left little time, energy, or impetus for basic thinking along administrative lines. No government agency actively involved in a great war can possibly evolve the orderly functioning and organization characteristic of peace.

In Clinton P. Anderson (1895--), who became Secretary of Agriculture by appointment of President Truman, July 1, 1945, the Department had placed at its head an excellent administrator and organizer, a gifted public speaker, and a man with an ingratiating sense of humor who knew how to get along with people. He served until

May 10, 1948, when he resigned to stand for the Senate in his own State, New Mexico. He regarded himself primarily as a businessman, though he had grown up on, and still operated, a 640-acre farm near Mitchell, S. Dak., and he owned and operated 800 acres of irrigated land near Albuquerque.

Mr. Anderson was born in Centerville, S. Dak., the son of a Swedish immigrant. He was educated at Dakota Wesleyan University and the University of Michigan, but contracted tuberculosis and was unable to join the services during World War I. He procured a job on a newspaper in Mitchell, S. Dak., but his declining health forced him to go to New Mexico, where he became a reporter on and then editor of the Albuquerque Journal. Since his health finally forced him to seek work in which he would be outdoors more he began to sell insurance.

In the end he became president of the Mountain State Mutual Casualty Co., which he organized in 1937, and he also operated a general insurance agency in Albuquerque. He slowly won his fight for health, even though he later contracted diabetes, and the possibility of active tuberculosis remained a possibility. He was for years active in civic clubs and, in 1932-33, was president of Rotary International.

Mr. Anderson served as the State Treasurer of New Mexico, 1933-34; as administrator of State relief and field representative of the Federal Emergency Relief Administration, 1935-36; chairman and executive director of the New Mexico Unemployment Compensation Commission, 1936-38; and as managing director of the Coronado Exposition Commission, 1939-40, He was elected one of New Mexico's two members-at-large of the House of Representatives and served in the Seventy-Seventh to the Seventy-Ninth Congresses. It was in the last that he became chairman of the Committee to Investigate Food Shortages.

A great admirer of Franklin Delano Roosevelt, Mr. Anderson collected books and documents about him, on the history of the West, and on wartime budget hearings. He had an active, agile mind and could easily wade through vast stacks of forbidding documents, get the meat out of them and know them in abstract.

He first procured the very best possible advisory committee and reorganized and consolidated the Department. He then redircted it to meet the acute world food crisis. From the very beginning he consistently advocated all-our farm and food production, and the national recognition of the agricultural industry as fundamental to our progress.

He was at all times an outspoken and an insistent advocate of improved employee welfare, and praised the Department's staff unstintedly. Having lost more than 200 of his top administrators within a little over a year, he made such convincing statements advocating more equitable pay that the House, in 1948, agreed he could pay above-ceiling salaries (up to $15,000 a year) to 10 such personnel in order to maintain them. But the Senate demurred.

On June 20, 1945, the President issued an Executive Order abolishing the War Food Administration at the end of the next day's business, and transferring its functions to the Department of Agriculture. On July 3, Secretary Anderson issued a memorandum announcing the appointment of his Committee on Reorganization, with Milton S. Eisenhower as chairman. This committee conferred with all agency heads and then reintegrated the War Food Administration and the Department to avoid overlapping, duplication of functions, and inefficient public service. An excellent job was done.

On October 26, 1945, the Secretary established State and County Department of Agriculture Councils to take the place of the War Boards. On December 12, 1945, the Bureau of Agricultural Economics lost its

leadership in general agricultural program planning, and this function was placed in the Office of the Secretary. Responsibility for fostering groups for public study and discussion of broad agricultural problems and policies was transferred from the Bureau of Agricultural Economics to the Extension Service. Then the Situation and Outlook Board and the Policy and Program Committee were established.

Soon after the first of the year 1946 the Department had temporarily to assume possession and operation of plants, facilities, and property used in the production, processing, transportation, sale and distribution of livestock, meat, meat products and byproducts. Almost on top of this, the President announced his Nine-Point Famine Relief Program, February 6, 1946. Obviously both the Department and the Secretary had their work cut out for them and there could be no lethargic post-war let-down, while basking in the satisfaction of a wartime job well done.

Review of the Department's food program was ordered February 15 and, on February 21, revision of the 1946 farm production goals was announced. The use of grain for making alcohol was curtailed and, on February 26, the Department Committee on Home Gardening was formed. The first meeting of the Famine Emergency Committee was held at the White House on March 4, on call of the President. Thereafter the Department announced in rapid succession various measures to conserve grain and help meet the famine emergency.

During March alone changes were made in subsidies and price ceilings for livestock and grains; restrictions were announced on the use of wheat millfeeds; the public was urged to substitute plentiful potatoes for wheat products whenever possible; a lower rate of livestock feeding was advised; industry representatives met and drafted emergency food

conservation measures; greater farm machinery production was requested and facilitated; corn conservation measures were adopted; 20 million Victory Gardens was set as a goal; and the purchase and use of feed grains was restricted.

On March 8, 1946, the State Directors of the Production and Marketing Administration--which agency was essentially the residue of the old War Food Administration--and the chairmen of the State and county agricultural conservation committees were designated State and County Emergency Food Program Managers to help spread the supply of food for the Emergency Famine Relief Program. On March 11, the Famine Emergency Committee, after an all-day session at the Department, announced specific recommendations for the conservation of wheat, wheat products, and food fats and oils.

On March 19, the Secretary established an Office of Emergency Food Program in his own office to coordinate and give general direction to all phases of the program, and to assist him in providing food for relief shipment abroad. On April 9, former President Hoover reported to the Famine Emergency Committee on European food needs and the next day the Secretary issued a call for world aid in the food fats and oils crisis.

For scope, size, and speed of operations all this was reminiscent of wartime. On April 19, 1946, the Secretary announced a 6-point program for famine relief affecting the activities of millers and food manufacturers, and offering to purchase wheat and corn at a bonus of 30 cents a bushel, as well as unlimited quantities of oats. A broad Government grain policy was announced May 8.

Before the end of July bakers had been requested to reduce the weight of bread and rolls, protein and soybean meal controls were tightened, the Government's food-procurement plans for 1946-47 were announced, the proportion of protein meal and wheat used in mixed foods was reduced, and beer production was curtailed. Indications were that the per capita consumption of food in this country would, however, remain at higher than pre-war levels.

Meanwhile, as Secretary Anderson's first annual report, submitted December 15, 1945, had emphasized, the Department's operations were no longer merely domestic in scope, though its enormous routine functions in this field had to go on at all times. Its activities were worldwide, as during the war. Special relationships existed officially between the Department and the Food and Agriculture Organization of the United Nations. Food throughout the world was the problem of American agriculture. The Secretary continued to call for maximum farm production. Whatever industry might do, he announced, agriculture was going all-steam ahead on production. His foresight stood us in good stead as we tried to ameliorate world famine.

The Interagency Committee on Foreign Shipments of the Office of War Mobilization and Reconversion, had emphasized this crisis, in its Food Report to the Director of OWMR, April 30-May 1, 1945. The Department's own Office of Foreign Agricultural Relations had again presented the challenge in the fall of 1945. But until it had been more completely revealed to the public the Nation was slow to act. The Department of Agriculture quickly mobilized its resources and took appropriate action after the President announced his Nine-Point Famine Relief Program.

On August 14, 1946, two extremely important pieces of legislation affecting agriculture were approved. The Agricultural Research and Marketing Act authorized a total of 9½ million dollars to be appropriated the first year, rising to 61 millions in the fifth year after passage, for agricultural research and investigations marketing services, with special emphasis on the utilization, marketing, and transportation of farm products, as well as for production research. Much of the research was to be carried on by Department agencies or by State agencies, with matched funds; but there was a provision which authorized the Department to contract for research to be done by private agencies if they were better equipped and staffed for the project.

This placed a stupendous job in the Department's lap. For one thing the work would demand the services of more highly qualified marketing experts than were in existence, and of more trained and experienced research workers in the natural sciences than could be hired at existing salary rates. For another, the very investigation, selection, and approval of projects upon which the funds could be judiciously expended offered a taxing problem. Again the Department was caught rather by surprise by the approval of legislation insisted upon by outside groups and Members of Congress.

On the same day the Farmers Home Administration Act established and gave permanent status and a final aura of respectability to the old Farm Security Administration by transforming it into the Farmers Home Administration. Some of its more noxious functions were curtailed; others that seemed less noxious to right-thinking people were added. Certain types of emergency loans were transferred from the Farm Credit Administration to the new agency.

Farmers Home Administration was authorized to make loans to farmers and stockmen who could not procure credit elsewhere, for farm needs and family subsistence. The act liquidated rural rehabilitation and resettlement projects and, as construed by the Department's Solicitor, it no longer permitted the agency to pursue its prepaid group medical care programs which had been so beneficial to so many low-income farm families. It also liquidated the farm labor camps, but authorized a program of insured farm mortgages comparable to those on urben real estate. It made the farm-tenant-loan program somewhat more effective and gave high preference to veterans throughout.

Grain export goals were increased when it was seen that the grain conservation program was succeeding. Some domestic restrictions were eased as early as August 23, 1946. Towards the end of the year many grain and other restrictions were lifted or eased. It was fortunate that the Department had had some residual war powers to effectuate this world famine program.

On November 26, 1946, Secretary Anderson addressed a letter to the chairmen of both houses of Congress, pointing out that current price supports did not well serve peacetime food needs and that the necessity for Congress to formulate a new farm program was urgent. Using potatoes as an example, the Secretary with the utmost clarity proved how ill-designed the wartime loan and price support programs were for peace.

Existing legislation, the Secretary demonstrated, led inevitably to waste, unnecessary subsidies, higher prices, and surpluses. While the Department had accurately anticipated all this, nothing could be done to prevent it as long as the statutes remained on the books. Potatoes offered a very striking example to illustrate the Secretary's thesis.

Acreages had been reduced mainly in low-yield areas. The widespread use of DDT, which not only killed potato insects but actually seemed independently to increase the crop, of more fertilizers, better strains and cultivation methods, and ideal growing weather combined produced a tremendous yield. Moreover Department scientists know how to develop strains that will yield 1,000 to 1,400 bushels per acre under ideal conditions! In spite of monumental diversion efforts engineered by the Department, all of these potatoes simply could not be moved quickly enough to market and industry to find use. Hence 20 million bushels of them went to waste and 80 million dollars of public funds were lost on the crop.

On December 31, 1946, the President proclaimed the cessation of hostilities of World War II. That action gave only two years of life to the Department's price support programs covering the basic, the Steagell amendment, and other farm commodities. A new farm program became still more exigent. On January 22, 1947, the Secretary made a comprehensive report to the House Committee on Agriculture, relative to the Stabilization Act of 1942, the loans, and the farm program.

Therein, again with perfect clarity, he explain the current programs based on existing legislation, and went into detail. Loans were still in effect at 90 percent of parity on the basic crops of corn, wheat, tobacco, peanuts for nuts, and rice, and at 92½ percent of parity for cotton. Farm marketing quotas could be invoked in certain circumstances, if producers approved on referendum. When such quotas were in effect, full-rate loans were made only to cooperators in the program. Producers who exceeded their marketing quotas were subject to penalty.

Under the Steagell Amendment certain nonbasic commodities--hogs, eggs, chickens, turkeys, milk, butterfat, certain varieties of dry peas and dry edible beans, soybeans, peanuts and flaxseed for oil, potatoes,

sweetpotatoes, and American-Egyptian cotton would be supported, until December 31, 1948, at not less than 90 percent of parity or a comparable price. The Secretary had been authorized to announce by proclamation whenever increased production of these commodities was required. But there was no regulatory legislation under which production adjustment could be achieved for these crops.

Finally, price support was permissible, though not mandatory, for all other commodities, though there were no specific rate under current Commodity Credit Corporation powers. Section 32 still authorized surplus removal and new-use programs, with appropriations representing a share of tariff revenues. Section 4b of the Steagall Amendment had declared it to be the intent of Congress to--within limits of available funds--maintain fair parity relationships between commodities under mandatory and under permissible price supports. The major problem now was offered by the nonbasic crops, potatoes and eggs especially.

Then the Secretary again used the potato surplus illustratively. The inevitable losses had run to 15 million dollars, even in 1943. In 1946, the Department sought to avoid trouble by recommending a smaller acreage and minimum price supports, but the shift to higher yielding areas and the other factors mentioned above, had resulted in an average acre yield of 184 bushels, as compared with 124 in 1934-45, and a previous all-time high of 155 bushels.

Even then the acreage was smaller by one-fifth than that in 1928. In fact, it was the smallest since 1892, but the near-record crop was 475 million bushels, as compared with a 1947 goal of 375. Again the Secretary told how all the potatoes could not be used, how many were wasted, and cited the cost of 80 million dollars. Again he stressed the immediate urgency of remedial legislation.

Congress took no action involving a basic rewision of the farm program, however. It is also interesting to observe that such actions as were from time to time suggested were predicated on continuance, in somewhat altered form, of the fundamental devices first put to use in the administration of Secretary Wallace. It seems astounding that this wild New Deal radicalism was already so entrenched in American thought and so definitely formed part of the American tradition as to have attained to respectability, and to have won the support of the Eightieth Congress.

To go ahead of our story, The President, in his Message to Congress of May 14, 1948, recommended flexible price supports on a permanent basis, an expansion of our soil conservation program, the continuance and strengthening of such programs, like the school lunch program, as assure an adequate consumption of agricultural products, and more special aid for farmers in obtaining electricity, health and education facilities, and housing.

The principal suggestions by the Congress were embodied in the socalled Aiken Bill, introduced in the Senate May 18. It authorized combining the functions of the Soil Conservation Service and the Agricultural Conservation Program, so that the agency making the payments would also give the technical advice; a system of flexible price supports; and a revised parity formula. In its last hours the Eightieth Congress reenacted the existing agricultural program for another two years, to be followed by the Senate program just abstracted, minus the feature first mentioned.

In the 1946 fiscal year our agricultural exports exceeded 16½ million long tons of foodstuffs and no less than 400 million bushels of bread grains. Farm prices for the calendar year 1946 averaged about 220 percent of the 1910-14 level, and cash farm income was about three times the 1935-39 average. But the irreversible uptuwn in farm technology

in the last decade had increased crop production per acre by one-fifth and production per farm worker by one-third. The 1946 farm output was approximately 36 percent above the 1935-39 average.

On April 1, the First Decontrol Act and the Sugar Control Extension Act of 1947 were approved. As a result, the final days of sugar rationing were transferred to the Department, lack of funds requiring its liquidation July 28. The same legislation reduced the number of powerful War Food Orders to a meager eight.

An Act of Congress approved July 1, 1947, placed Bureau of Animal Industry's Federal meat inspectors under a new payment system by fees from the packers. This was revoked by another act approved June 5, 1948, and the inspectors were again paid by the Department of Agriculture.

The Farm Grain Savings Campaign was launched October 3, 1947. On November 19, Secretary Anderson proved that Government food holdings, rumored to be tremendous, were far from excessive. There were no huge hoards of food Americans needed, held under price support loans as the ill-informed had contended.

Dread foot-and-mouth disease was discovered among the cattle of the Mexican Republic in late 1946. This duly alarmed livestock growers in Texas and the South generally. Throughout 1947 a campaign of eradication was put on in Mexico with the assistance of this and the cooperation of the Mexican Government. However, the Mexican livestock industry and economic system generally proved incapable of withstanding the ruthless slaughtering operations required for quick stamping out of the plague. A change was made to quarantine, vaccination, and less frequent slaughter. This proved a more palatable method of attacking the critical problem and gave Mexican politicians hostile to the United States less leverage for inimical speeches and propaganda.

On January 27, 1948, the Secretary established an Office for Food and Feed Conservation. An extensive new consumer food conservation program was announced April 21. Millions of copies of a booklet on the economical feeding of families, entitled Money-Saving Main Dishes, were distributed. Meatless Tuesdays were rescinded, but the cooperation of home economists, the food industries, food handlers and retail food stores, and the restaurants was procured in the new conservation program.

In the first half of 1947, cash receipts from marketings, plus Government payments to farmers, ran at an annual rate of approximately 28 billion dollars. Exports of agricultural products during this same period were 1.7 billion dollars in value. The slump after World War I had not been repeated.

In the year which ended June 30, 1947, we exported more than 19 million long tons of grain and other food, mostly to countries left hungry by the war and its aftermath. This was more food than any country had ever before shipped abroad in a single year. Yet food consumption per person in the United States was about 17 percent above the 1935-39 average! Ever since 1940 our own people have eaten more and better food than before that year, though we have faced manpower, machinery and supply shortages, and have supplied enormous quantities of food to our armed forces, our allies, and liberated countries.

Secretary Anderson ended his term of office stressing the necessity for a new farm program to be enacted by Congress, urging all-out farm production, calling for food and feed conservation, and especially commending the integrity, high quality, and achievements of the Department's employees. Probably no head of the Department before him so well understood employee problems or so faithfully defended them and promoted their best interests.

In an address delivered before the Economic Club in New York City, January 14, 1948, he gave free vent to his thinking on this subject. The Department's need for competent personnel that would stick was acute. Yet Government employees were continually reviled as lazy, incompetent, irresponsible, and probably subversive. To top it all their salaries were wholly inadequate, especially for supervisory and executive positions. Such conditions made impossible the efficient, businesslike administration [redacted] adverse critics claimed they wanted.

The Commodity Credit Corporation was one of the largest and certainly the most complex corporation in the world. Its magnitude was enormous, its operations infinitely varied. It had, in the 1942-46 period, slightly more total assets than General Motors, inventories twice as large, and almost as big a volume of sales. It had subsidy, loan, and purchase activities for which there just is no basis of comparison in private industry. But men who operate such institutions outside command up to $50,000 a year with ease.

Combine the 10 largest corporations purchasing, processing, and distributing agricultural commodities, and you get a good comparison with CCC. Ten of the leading food and tobacco companies together had smaller average total assets than CCC in the 1942-46 period, and their total average inventories were only slightly larger, while CCC sales averaged 61 percent as large and equalled 10 percent of the Nation's retail food and drink business. CCC's average assets in this period were 2 billion dollars.

That business was conducted by men making $10,000 or less a year. It constantly lost experienced personnel to private industry at from two to three times what it could possibly pay to retain them. One-sixth of the Department's top-grade people resigned in 1945-46 to accept larger salaries outside; others stuck through loyalty to the public.

Hence business got its pick of executive, administrative and scientific talent, while the Department had to depend upon patriotism as an incentive, while offering small remuneration and public carping at Government employees as bonuses. Its attitude could be summed up by saying to the prospective employee: You are probably worth $15,000 a year, but I'll pay you only $10,000, and on top of that I am suspicious of you. I think you are probably a liar and a cheat. Now do your best for me!

Said the Secretary: "The Nation needed the shock administered recently by Chancellor Robert M. Hutchins of the University of Chicago when he advised faculty members and graduates not to enter Government service. He has rendered a public service by calling attention to the undesirable conditions public servants encounter. We must correct these conditions. . . .If mediocrity isn't good enough for private business, how can it be countenanced in public business serving the interests of the people."

Ever lavish in praise of his staff which, he said, could always give him the information he wanted, and who devotedly worked overtime without thinking this a burden, the Secretary also defended them against charges that they were propagandists or rascals. The Department still got an average of 3,000 letters a day which could be answered by mailing out printed publications. Citizens depended upon it for information. It had to keep the public informed. "Strangely enough some of those who shout loudest that the Government ought to tell the people more are the most vociferous in charging us with issuing 'propaganda,' especially in election years," said Mr. Anderson.

About the time Mr. Anderson resigned the Department had 51,159 full-time employees, of whom 10,287 were located in the Washington area and 40,872 outside of it. Counting both full and part-time workers a total of 71,641 was employed. In 1947, there had been 60,000 full-time

employees. There were 70,000-75,000 such employees during the 1939-42 period and about 63,000 in 1937-38. Total employess, counting fulltime, part-time and seasonal, numbered most between 1933 and 1941, say from 108,000 to 110,000. But, in 1937, that figure dropped to 82,019, and it was 78,000 in 1943, 74,000 in 1944, 83,000 in 1945, 78,000 again in 1946, with a drop to 68,000 in 1947.

Reorganization was badly needed when Mr. Anderson took over the Department and the War Food Administration. This was in part because the precipitous tumult of the war emergency had prevented the administrators from devoting the customary time and attention to structure and functions, and in part because the wartime set-up was too large for peace. No better person could have been chosen for the consolidation job than Mr. Anderson.

The committee he appointed was well-selected and well-qualified. Chairman Eisenhower had long held important policy positions in the Department and was now President of Kansas State College. The committee announced its decisions August 18, 1945. While certain minor changes and adjustments had to be made thereafter, as anticipated, this decision in large measure stood up. The principal feature of it was creation of the Production and Marketing Administration.

Into this were consolidated the following: Office of Basic Commodities, Office of Supply, Office of the President of the Commodity Credit Corporation, Office of the Manager and the Secretary of the Federal Crop Insurance Corporation, Office of Marketing Services, Agricultural Adjustment Agency, Office of Requirements and Allocations, Office of Price, Office of Transportation, Office of Materials and Facilities, Office of Labor, Office of Home Food Supply, Office of Investigatory Services, and the now fast liquidating Federal Surplus Commosities Corporation.

Then or later the following were abolished: Land Use Coordinator, Office of Water Utilization, Office of Surplus Property and Reconversion, Office of Price, Office of Transportation, as well as certain other units in Production and Marketing Administration. The Federal Crop Insurance Corporation was made an independent bureau in PMA on October 8, 1945, and became a bureau of the Department on July 1, 1946. The Commodity Exchange Autherity emerged as an independent agency of the Department February 1, 1947.

The functions and organization of the Bureau of Agricultural Economics were redefined December 12, 1945. It remained the agency responsible for the collection and dissemination of agricultural statistics, economic research and its results. But it lost its leadership in agricultural program planning to the Office of the Secretary. On January 23, 1946, a Situation and Outlook Board and a Policy and Program Committee were established.

The Combined Food Board met and voted its own abolition, June 20, 1946. It then transformed into the enlarged International Emergency Food Council. This wound up as a division in the Food and Agriculture Organization of the United Nations. In this international connection the Famine Relief Program led to the setting up of an Office of Emergency Food Program in the Department, March 16, 1946.

Approval of the Research and Marketing Act made necessary the establishment of an office to administer it. Approval of the Farmers Home Administration Act resulted in extablishment of the Farmers Home Administration as of November 1, 1946.

Administration of the Meat Inspection and the 28-Hour Laws was transferred back to the Bureau of Animal Industry August 21, 1945.

The principal legislative enactments of agricultural importance approved during Secretary Anderson's term were: The Governmental Corporation

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Control Act, December 6, 1945; the National School Lunch Act, giving permanent status to this activity, June 4, 1946; the Research and Marketing and the Farmers Home Administration Acts, August 14, 1946; the Federal Insecticide, Fungicide, and Rodenticide Act, June 25, 1947; the Farm Labor Camp Disposal Act, which liquidated this program, July 31, 1947; and the Sugar Act approved August 8, 1947.

When Mr. Anderson resigned the Department's research, program, and action agencies were: Agricultural Research Administration, Commodity Exchange Authority, Extension Service, Farm Credit Administration, Farmers Home Administration, Federal Crop Insurance Corporation, Forest Service, Production and Marketing Administration, Rural Electrification Administration, and Soil Conservation Service. The Commodity Credit Corporation was very closely integrated with the Production and Marketing Administration.

The Department's staff agencies then were: Bureau of Agricultural Economics, Office of Foreign Agricultural Relations, Administrator Research and Marketing Act, Office of Personnel, Office of Budget and Finance, Office of Plant and Operations, Office of Information, Office of the Solicitor, Office of Hearing Examiners, and the Library. The Office for Food and Feed Conservation partook of both staff and line functions but worked closely with Production and Marketing Administration. It was discontinued June 30, 1948, for lack of funds.

Secretary Anderson resigned May 10, 1948, and was thereafter nominated for the Senate from New Mexico. He recommended as his successor his own Assistant Secretary, Charles F. Brannan (1903---) who took office June 2, 1948, by appointment of President Truman. Mr. Brannan had been a Department career employee. He was also an urbanite, born in Denver, who graduated from the Law School of the University of Denver. He thereafter engaged in private practice.

He specialized in irrigation and mining cases until 1935, when he became assistant regional attorney for the Resettlement Administration. Two years later he became Regional Attorney for the Department's Office of the Solicitor, with headquarters still in Denver. In 1941, he became Regional Director of Farm Security Administration for Colorado, Wyoming, and Montana, remaining in Denver. For some time he was part owner of a cattle and grain ranch near Eads, Yuma County, Colo. In 1944, he was called to Washington to become Assistant Administrator of the Farm Security Administration. Only two months later he became Assistant Secretary of Agriculture.

Throughout his career Mr. Brannan's chief interest has been the development and maximum scientifically justifiable utilization of our forest, land, and water resources. As Assistant Secretary he worked closely on Forest Service problems in protecting grazing lands. He acted as Director of the Office for Food and Feed Conservation from its creation. He was also very active in United Nations and other international conferences.

As Vice Chairman of the Department Program and Policy Committee, Mr. Brannan presented the Department's long-range agricultural program to the Eightieth Congress. He was also Vice Chairman of the Commodity Credit Corporation. On appointment he expressed great admiration for Secretary Anderson and promised closely to follow out his policies, policies which Mr. Brannan had helped formulate and carry out.

In his initial statement as Secretary Mr. Brannan said: "Our conservation, price support, and credit measures, together with research and statistical services, add up to the best farm program any nation has yet developed." He stressed close cooperation between Federal and State farm agencies, and with outside organizations and institutions concerned with

agriculture. He praised the ability, integrity, industry, and devotion to duty of Department employees.

The Department's growth has been accompanied by an enormous increase in the responsibilities imposed upon it by Congress. But the demands upon it also increase. For instance, whereas only 40,000 to 50,000 requests for information reached the Department in 1889, the average number of mail requests received daily, that can be filled by printed publications is today over 3,000, which figure takes no account of requests that come in by telephone or in person, or which require a letter in reply. Each agency also has its own stream of requests many of which do not reach the Office of Information.

It has been a long-time tradition to expect accurate information from the Department. Many requests come to it which are wholly outside the field of agriculture. Faith persists, however, that it can and will answer. Individuals from all walks of life who live in cities and towns as well as in the country, come to it with their most intimate problems in full confidence that it can solve them. At times they make out of the Department a veritable father-confessor.

They may want the name of a lonely hearts club, of a place to spend a honeymoon, or one to give to a newborn baby. They ask for information on personal grooming, on how to keep a girdle from decaying and smelling badly, on the care of garbage cans, Little Eva's last name in Uncle Tom's Cabin, the wheat yield of an Oregon County in 1888, or all the buildings and parks in the United States named after Lincoln. They ask how to bury dead cats in the ground, whether angora wool grows after it is made into a sweater, the miles a bee travels to make an ounce of honey, the color of a lamb's or even of a potato's eyes, or how to rid the house of squirrels.

The Department solemnly and even somewhat demurely does its very best to answer correctly, though some of the queries are embedded in

letters filled with shocking personal matter, expressed in crude language, that should bring a blush to the cheek of a taxidriver. It maintains facilities for writers, editors, and authors of books and magazines, who wish to adhere to factual accuracy, to check their statements, though not their prejudices, slants, or ideas, and be sure they are correct.

It receives letters from disgruntled citizens who have gotten certain publications, sometimes the wrong ones, long after their emergency had passed and been forgotten. They are unaware that at times as many as 5,000 requests will appear daily for some time, and that the Department's funds and staff for dealing with them have been so curtailed that it simply cannot expeditiously handle such great volumes of mail. Furthermore, its printing funds have for years been chronically inadequate and it very often lacks copies of publications desired.

These things are beyond its control. They rest with Congress. But citizens want service, and promptly. Fortunately the thank-you letters are frequent, some of them lavish in praise. Then, as revealing as anything could be, are wholly volunteer letters from little children, loaded as they are written with volumes of meaning. One such came in recently addressed merely to the Department of Agriculture and reading:

"Dear sirs: Is it fine out there? Grandpa said it was like spring. It isn't very nice here in South Dakota. There is still snow on the ground. I have all my clothes for easter except my shoes. I am going to have everything red but my shoes. They are going to be black. Love. Betty Ann."

Another letter, also recent, came in duplicate, in the childish handwriting of two small boys each of whom signed his own missive. It read:

"Dear Department of Agriculture: A friend of mine told me that you supply ambitious young people with animals and flowers with which to start a business. I am ambitious and young, and so is my friend, and we wish to start a small business. If you please, would you send me a small cotton plant and a small yellow chicken?"

An institution to which such letters are spontaneously written has behind it a long tradition of public service. It maintains a warm place in the hearts of many adults and children as well.

XIV -- Is the Job Done?

Well, where does this leave us? Is the job done? Agriculture is more prosperous than ever. Will it remain so?

Since 1930 the agricultural industry has been heavily subsidized. Those who protested this subsidy or who regarded it as novel overlook two things. One is that the farm population has always received a disproportionately low share of the national income; the other is that in demanding and accepting Government bounty and munificence agriculture is merely following in the steps of industry.

For our American finance capitalism has never been truly solvent. It has always operated under a masked deficit. Its early success argued neither particular daring nor intelligence. Our vast natural wealth, our great increases in population, whether by immigration or biology, and the rise of scientific research and technology together rendered success in business and industrial enterprise all but inevitable.

This enabled private industry to operate at a financial profit though with low social efficiency, the exact reverse of agriculture. It also involved the exploitation of both human and natural resources and of the technical advances the experts constantly made to improve methods and cheapen processes. Thus our socalled private capitalism was richly fed upon our natural wealth and the brains of our scientists and engineers.

Free public land built our railroads and established our system of rural education. The public postal system provided cheap and efficient communication below cost. Transportation by automobile was heavily subsidized by Federal and State investment in the public roads, which alone rendered the automotive industry a financial success. Ocean shipping

and air transport alike flourished on Government bounty.

The socalled capitalistic system was never called upon to pay the social or economic costs of rearing, educating, properly housing, feeding, clothing and providing medical care for its workers. The State or public charity were expected to provide for these workers such goods and services as they could not afford, and to maintain for industry a constant labor pool upon which it could draw at will. For, unlike the farms, industry turned its unemployed loose on society in times of stress.

The solvency of this system is obviously fictitious. The system never pretended to pay the real costs with amortization of the minerals, coal, lumber, forests, oil, soil and other natural endowments it exploited at minimum cost to itself. It was lavishly assisted from the very first with tariffs, patents, franchises, and subsidies and, as time went on, it received long-term low-interest loans which were oftem unrepaid, as well as grants and downright girts. Over and over again private enterprise has come to Government a mendicant and left wealthy.

Meanwhile the public has paid billions for the shocking fiaancial indiscretions and unwisdom incidental to the proliferation of this system. It has footed the tremendous losses associated with insecure securities, fabulous holding companies, inflated trusts, stock write-ups and revaluations--a tottering structure destined to suffer periodic and costly collapses. Its bewildering array of financial devices simultaneously bewildered and defrauded the public.

Agriculture's turn at the public crib came late, in the nature of things. Its takings have so far been small by comparison. But they have also been coupled with a very large degree of scientific foresight, supervision, and direction which have given the public a huge return in water, soil, and forest conservation and in increased food and fiber production. It has been accompanied

by valuable research which paid lush social dividends. At least its subsidies have consistently served to build and rehabilitate rather than to tear down and exploit natural and human resources.

Agriculture began as a cooperative subsistence home industry. As varying factors commercialized it, it entered in upon a stage of enclosed capitalism and almost pure private enterprise. But it was ultimately compelled to seek Government nurture and favor even as industry had done before it. Moreover, like industry and the businessman, the farmer preferred bounties and protection along with freedom from the direction and supervision incidental to governmental investment in agriculture as a business clothed with public interest.

Farmers liked the payments, but they resented the forms they filled out; they liked the loans and the increased income, but they periodically cried out that they were regimented, even when they themselves wrote their own rules. During World War II, agriculture actually became a public utility in all basic essentials, and it was operated by Government for the attainment of predetermined ends. But, so long as Government makes any investment in agriculture, so long it will almost certainly insist that public responsibility requires it to exercise a measure of direction or supervision.

For many years after the establishment of the Republic, agriculture, unlike the more predatory industries, received little or nothing from the Federal Government. It was regarded as a way of life rather than as a business or industry. But as various factors mentioned earlier herein drove it to commercialization, it began to seek and to procure some aid from Government. Prior to the 1930's this aid fit snugly into traditional patterns and was designed to help create an economic environment in which agriculture could better itself.

Research, educational activities, and certain special services constituted this form of aid. The Department also acted as custodian for certain public lands in National Forests. In the 1920's there was a shift towards research work and educational effort in agricultural economics and marketing. Extension work was expanded and various reports of new types were issued to help farmers in their marketing problems. These activities essentially provided farmers with better information on the conduct of their business.

Next the Federal Government began to provide limited financial support for specific types of business services which, it was hoped, would further advantage farmers. It promoted farmer-owned cooperatives and provided farm credit on somewhat easier terms than farmers could procure elsewhere. But this followed steps taken earlier when the Government absorbed interest costs and made liberal repayment conditions in connection with certain pre-World War I irrigation projects. It also made those emergency crop and feed loans in 1918.

A marked policy change occurred when the Federal Farm Board began its price-fixing activities. That was the earliest attempt to merge Department and farm organization policies. The effort to use the 500-million-dollar revolving fund to retard a precipitous price drop for farm commodities was a new type of effort for Government. It amounted to the Government engaging in a business speculation in farm products for the benefit of their producers. If the depression had been short-lived this would have been regarded as a highly successful governmental operation of an enterprise. But continuance of the depression turned it into a subsidy.

Yet, until the 1930's, Government aid to agriculture was scarcely regarded as a subsidy because it fit so well into the esteemed

traditional pattern of Government assistance to American free enterprise and private individualism. Such services had so long been acceptable to the public that their subsidy aspects were disregarded. But the new measures taken after 1930 cut to the very heart of agriculture's economic processes. They often merged governmental action with economic forces operating through the market, instead of operating merely at the periphery of a supposedly automatic economic system.

While such Government activities did not supplant the law of supply and demand, they strongly affected it. Meantime aid in the form of research and education continued and expanded. The conservation of our resources became a far more important factor than it had ever been before, and farmers were subsidized to use soil conservation and soil-building practices. Aids in the field of farm credit developed into a combination of federally sponsored enterprise services and direct and indirect subsidies. Crop insurance was introduced as a more orderly way of dealing with situations previously placated with emergency loans.

The Agricultural Conservation Program was a really new and major departure in policy. Direct money grants and a degree of over-all Federal management of important segments of the agricultural industry were used to promote soil conservation, the Soil Conservation Service providing the technical guidance. These grants increase the incomes of farmers and also at the same time provide them with incentive to cooperate in programs of selectively restricted crop production. Commodity loans and direct Government purchases combined to withhold farm products from unfavorable markets. Increasing consumption of farm products was stimulated by various kinds of consumer subsidies.

It is true we had long subsidized foreign consumers in this manner, using loans that were never repaid. But we had never extended such bounty to our own consumers.

The approach of the Farm Security Administration was still more novel, and it involved use of one of the most valuable social inventions produced in the Department. It dealt with individual farm families as economically underprivileged units, rather than with the broad abstract economic process as a whole. Loans were made contingent upon the client's agreement to follow expert guidance in farm and home management, an ingenious invention of high utility. The clients also gained a measure of special services and public supervision.

These various socalled New Deal programs will be found well summarized in two booklets probably still to be found in agricultural libraries. One is Planning a Permanent Agriculture, which is a Department Miscellaneous Publication No. 351, and was issued in June 1939. The other, somewhat earlier and broader in approach, is Arthur P. Chew's The Response of Government to Agriculture, issued by the Department in November 1937. Finally, excellent collateral reading, which was heavily drawn upon here, is Federal Aid to Agriculture Since World War I, by Donald C. Horton and E. Fenton Shepard of the Bureau of Agricultural Economics, which appeared in Agricultural History for April 1945 (19;114-20).

The types of aid provided agriculture during the 1930's remained essentially unchanged during World War II. This was true of basic research and educational services as well as of conservation and agricultural credit. But there was a change of emphasis in that payments of direct subsidies to farmers and the Department's support and production control activities were redirected. The previous policy of selective restriction in production was very largely reversed. During the war, price incentives were provided for acreage expansion of particular commodities which were essential but scarce, as well as to achieve a better over-all balance in agricultural production as related to the remainder of the wartime economy.

It was hoped that by means of commodity loans and direct Government purchases the prices of basic commodities could be maintained at or above 90 percent of parity. The same thing was anticipated regarding other selected commodities where great expansion was desired. Meanwhile provisions for restricting production and raising prices, such as acreage allotments and marketing quotas, were held in abeyance, since wartime demand for most commodities at the support prices greatly exceeded the suppky.

But much still remains to be done. In its present curtailed operations the Farmers Home Administration can heed only a fraction of the appeals made to it. Nor has it been a money-losing proposition by any means. It has assisted some 1,290,000 family-type farmers unable to obtain credit through normal channels to become more successful tenants or farm owners. From 1935 through April 30, 1948, it assisted 1,231,000 farmers with operating loans totaling over 1.2 billion dollars. From 1938 through May 31, 1948, credit to purchase improve, develop or enlarge farms, totaling $344,480,000 had been supplied to 60,000 farmers, and other loans have been made through private lenders and insured by FHA.

In addition to the total of more than 2 billion dollars for individual farm operating and real estate purchase needs, loans have been made to groups of farmers in the amount of 32 millions for similar purposes and, in 17 Western States, more than 8 million dollars had been provided to install needed water facilities. But repayments on farm operating loans are approximately 84 percent of maturities. On farm purchase loans, approximately 16 percent had paid in full by May 31, 1948, years ahead of schedule, and current borrowers had repaid nearly 22 million dollars before it was due.

But applications far exceed funds available for loans. Many of these are from veterans. Large numbers of farmers even in these days of high prosperity lack the facilities and the funds to take advantage of the situation. The Farmers Home Administration has proved that it can aid them. It has proved that its method of combining sound guidance with its loans tends to foster their repayment even when the collateral against which they are made would not attract other credit agencies.

None of these agricultural credit agencies has turned out to be a service for sluicing public funds down the river. Take the Farm Credit Administration, which has provided farmers and their cooperatives with 14 billion dollars worth of credit since 1933, to finance farm operations, marketing, and farm ownership. The 12 Federal land banks started off/in 1917 with 9 millions in Federal capital which was mostly repaid by 1926. During the depression the Government subscribed 125 millions in capital stock and some 189 millions in paid-in surplus. By June 1947, this had all been repaid and the banks now operate entirely without Government funds. They have made loans of 4 billion dollars to more than a million farmers and have built legal reserves and earned surplus of 199 million, besides meeting losses amounting to slightly less than 3 percent of the total loaned, and paying 54 million dollars in dividends to stockholders, mostly farm-owned national farm loan associations.

The 12 intermediate credit banks, since organization in 1923, have had Government capital of about 100 million dollars. They have paid the Government, since 1923, franchise taxes totaling over 7 millions, and have made loans and discounts aggregating nearly 12 billion dollars. Their reserves, earned surplus, and undivided profits total 35 million dollars. Their losses amount to only 1/12th of 1 percent of the total loans and discounts made.

The 12 production credit corporations, in 1933, had 120 million dollars of Government capital to use mainly to capitalize and start

local production credit associations. Since 1933, the corporations have accumulated an earned surplus of 16½ million dollars and have entirely repaid 38 1/3 million dollars of the Government capital to a revolving fund of the U.S. Treasury. The Government capital in the associations has dropped from a peak of 90 million to about 31½ million dollars. The production credit associations have loaned farmers 6 billion dollars for crop and livestock production since 1933, have accumulated reserves of 43 1/3 million dollars, and had losses of about ½ of 1 percent of the total loaned.

The 13 banks for cooperatives were capitalized with part of the Federal Farm Board's revolving fund. Government funds now in the banks total some 179 million dollars, but it is planned to transfer ownership of these banks entirely to the borrowing co-ops. Since their organization in 1933, they have provided 3½ billion dollars worth of credit to farmer's cooperatives with more than 2½ million farmer members. They have built 45 million in reserves and earned surplus, and their losses on loans have been only 3/100ths of 1 percent of the amount advanced. Few banking institutions anywhere have such records as these.

Take finally the Rural Electrification Administration. Through March 31, 1948, it approved loans of over 1¼ billion dollars to more than a thousand borrowers, mostly cooperatives. These loans are amortized. Delinquencies of more than 30 days totaled only $1,077,165. The amount of $160,761,674 had been repaid in principal and interest. Only one loan—to a small North Carolina commercial power company which was destroyed by a hurricane, has ever been foreclosed. REA-financed electric distribution systems and facilities now serve 2,125,000 rural subscribers, including 1,635,000 farms, but it has 2 million more farms to serve.

Obviously the Farmers Home Administration, the Farm Credit Administration, and the Rural Electrification Administration have turned out to be sound financial and credit institutions. But there is a wide field as yet unskimmed by the first and the last. When Rural Electrification Administration was created in 1935 only 10 percent of the Nation's farms were electrified; now more than 61 percent of them are, but more than 2 million farms await service.

Another lack is in the field of social science. Whereas support has been fully adequate for research in the natural sciences, the Bureau of Agricultural Economics has steadily shrunk in recent years and basic research in the social sciences is insufficiently supported. Yet the social sciences are of paramount importance in that we so urgently need to know more about the scientific utilization of scientific knowledge. Social science investigation alone can tell us how to make scientific knowledge socially useful without provoking economic disaster.

Our farm plant is the biggest business on earth. It covered 1½ million square miles, or more than half the Nation's land area, while we were at war. That was 10 times the farm land of Germany and Japan combined and we had more acreage sowed to crops than the land areas of Germany, Italy, and Japan combined. About 27 million people were engaged in agriculture or living on farms during the war, though our farm population has steadily declined in recent years as technology has advanced.

Planning is indeed a job when it has to be done for 6 million operators, living on widely diverse soils and under climatic conditions which vary all over the lot. The planning for our 200,000 manufacturing establishments or our 2½ million business establishments of all kinds--

corner groceries and filling stations included--would have been easy by comparison. Yet the job of coordinating production on all those farms, and converting the pattern to attain wartime goals, stupendous as it was, became the responsibility and achievement of the Department of Agriculture.

The goals ran the gamut from synthetic rubber and oil to foods of all kinds. During every minute of 1943 this farm plant was asked to produce 360 bushels of soybeans, 7,000 pounds of peanuts, 2 tons of dry beans, 743 bushels of potatoes, over 10 tons of beef and veal, 13 tons of pork, 108,000 quarts of milk, 9,000 dozen eggs, 2½ tons of chicken, and a very great deal more, minute after minute. But the farm plant produced according to plan, ever more and more, year after year.

We have left, however, only about 460 million acres of high class cropland. This includes areas in crops and about 100 million acres in need of drainage, irrigation, and clearing. All but some 70 million acres of this land is subject to erosion and needs protection. We have already all but irreparably ruined a fifth of our original tillable land, a third of what remains is badly damaged, and another third is highly vulnerable. The soil, as we are so slowly learning, is an impermanent and complex resource, but the idea that it is inexhaustible still prevails in some quarters.

Our soil has long been in the custody of the untutored and the inept, men of little specialized training, who operated on a trial and error basis. They ignored erosion and slope and disregarded weather. By the middle of 1947 the Soil Conservation Service and the Agricultural Conservation Program had been instrumental in having about 100 million acres farmed in modern conservation manner.

But, while there were 1,670 conservation districts comprising

4 million farms, the job to be done is vast. If it is carried on no faster than at present we shall face domestic food shortages sooner than we think. The present rate of bringing 20 million acres annually into soil conservation districts is but a third that required to offset erosion damage.

About a third of our land area, 630 million acres, is still in forest land, but 168 million acres is noncommercial for saw timber production and, of the remaining 462 million acres, some 75 million are virtually nonproductive because of destructive cutting and fire. All the remainder, except a scant 100 million acres, has been cut over and now produces at only a faction of its potential capacity. Between 1909 and 1944 our standing saw timber was reduced 43 percent, and a third of that left is too inaccessible for harvest at reasonable cost. In 1944, the estimated drain on our saw timber exceeded annual growth by 50 percent.

Only 120 million acres of our commercial timber land is publicly owned. The remainder, which includes 90 percent of the Nation's timber-growing capacity and furnished 80-90 percent of the present cut, is in private ownership. Moreover 64 percent of all cutting on private land is poor or worse from the standpoint of fostering future crops. We have already all but dissipated our original vast heritage of forest land. Experts in the Forest Service know how to manage woodland on sustained-yield basis, whereby our forests could provide us with all the lumber we should ever need, in perpetuity.

But getting that knowledge into practice is another matter. Many more millions of acres should be acquired by Government and scientific sustained-yield production and cutting, which protects future crops, should be applied to all our forest lands, whether in public or in

private hands. It should be regulated in line with well-established scientific principles which conserve the soil, the water supply, and the forest. If fully applied,these principles would enable us continuously to produce all the lumber we needed, harvesting it as an annual crop. Instead,private interests are continually hacking at Forest Service, seeking to destroy its benificent activities and to despoil the range and the National Forests.

The May-June annual floods on the Mississippi cost 164 million dollars and 38 lives in 1947 alone. The Soil Conservation Service says that these floods also did 1.2 billion dollars worth of damage to the soil. Topsoil so easily gone takes centuries to reproduce. The topsoil loss alone in Iowa, Illinois, Missouri, Kansas, Nebraska, and South Dakota amounted to 660 million dollars, at an ultraconservative value of a dollar a ton. Enough of this soil was carried away from the first three States alone in that single flood to supply topsoil for 3,650 family-size farms of 160 acres each.

According to the Department of Agriculture it would cost a million dollars merely to make a complete survey as to what should be done to remedy this situation. Execution of any comprehensive plan to prevent such damage might run as high as 400,million dollars--but to stop a loss of 1.2 billion dollars and many lives it would be worth that and more. Inadequate grants of 25 millions were requested to reclaim this soil, but that is inadequate. The job is very far from done, you see.

Of course agricultural technology has been a great boon to the farmer. It effected an agricultural revolution during World War II. It enabled us to produce sufficient farm commodities to supply 30 million more people than ever before. Without appreciable plant enlargement, for not many more acres were in production, American farmers turned out some

30 percent more than they had ever done before in our history. Science and research aided by action programs made this possible.

Whereas an unimproved pig may require 12 months to attain a market weight of 225 pounds at a feed cost of 800 pounds per 100 pounds of gain in body weight, a scientifically improved pig will attain the same market weight in 6 months at an expenditure of 400 pounds of feed per 100 pounds gain in weight. Unimproved steers take 2 years to reach a marketing weight of 900 pounds, at a cost of 800 pounds of digestible nutrients per 100 pounds gain in live body weight, but improved animals can do the same thing in 1 year at a nutrient expenditure of only 400 pounds. The flesh of scientifically improved animals is also superior to that of the slower growing unimproved animals.

By artificial insemination one elderly but still pedigreed bull who passes along high milk production to his progeny, can sire 50 to 100 cows. A single ejaculation of a good bull may fertilize as many as 300 cows by this method.

Whereas an unimproved cow may produce a thousand pounds of milk, some improved cows are producing 42,000, Danish cows now average 7,500, and our own dairy-herd-improvement cattle average 8,000-10,000 pounds. Look at the saving in feed. Whereas an unimproved hen may lay 30 eggs a year beginning at 1 year of age, an improved hen will lay 360 eggs beginning at 5½ months of age. Again feed saving is high. But so relatively few of our animals and poultry are improved; so many are not.

The production stepup with improved livestock is enormous. We even know how to breed cows that sweat and thus thrive better and produce more meat and milk in our semitropical South. We can do things quite as remarkable with our field crops. We know the genes that appear to control

growth, maturity, fattening, disease resistance, high yields, even resistance to some insects. But all farmers are not yet rich by any means. Technology creates as well as solves problems.

In the form of mechanization it produces fewer and larger farms all the time. The average farm for the country as a whole is now 50 acres larger than it was a quarter of a century ago, and 20 acres larger than 5 years ago! Oklahoma originally ~~was~~ settled in 160-acre homesteads, now averages 220 acres or more per farm. Over half our farm land is now in farms of 500 acres or more, and farms of 1,000 acres or over comprise more than 40 percent of all, whereas they comprised only 25 percent 25 years ago.

Rapid strides in mechanization gave us 45,000 more farms of a thousand acres or above since 1920, the biggest increase being in the West where ranches of even 100,000 acres occur. There were 260 such monsters in 1945, or 100 more than in 1940. The 10 percent of western farms over 1,000 acres in area comprise more than 80 percent of its farm land. Even in the Midwest a fifth of the farm land is in holdings of over a thousand acres, many of them closer to 5,000, and such farms have increased 40 percent in number since 1920. Even in the South 40 percent of the farms are a thousand acres or above.

There are now some 5,860,000 farm units. Despite the increase of 180 million acres in farm land since 1920, we have 600,000 fewer units. The small farm, (10 to 1,000 acres,) is the weakest competitor, though it still accounts for half the farms. The inclusion of many small holdings which are little more than rural residences for urbanites subtly masks the trend. But farms are fast tending to become larger and fewer. People are being forced off the land by the machines.

It is quite possible that 2 million larger farm units, equipped with all modern machinery and using the best agricultural technology in every operation, could produce all our domestic needs today. As it is , about 10 percent of our farms have for some time been producing about half the commodities offered for sale. So technology raises problems it does not automatically solve.

We have for years, during peace, kept a large number of relatively unnecessary persons on farms by means of a variety of subsidies. It was either that or put them on city relief. Their attempted invasion of urban industry would have been most disadvantageous. That problem is in abeyance now but it will reappear at the first sign of depression. Moreover thousands of our farmers have been unable to take advantage of recent opportunities to share in the highly selective farm prosperity now going the rounds, particularly on the factorylike farms.

In 1946, our farm plant was valued at over 100 billion dollars, up 12 percent over 1945 and 90 percent above January 1, 1940, believe it or not. Farm real estate was valued at 56,6 billion dollars, other physical assets at 24.9 billions, and the financial assets of farm operators at 20 billions. Equities of farmers and other owners of farm business accounted for 93.2 billion of the total and creditor claims amounted to only 8.3 billion dollars.

This increase is attributable to price inflation, in the main, and to accumulations in bank deposits, currency, and War Bonds. But the farm plant itself has steadily deteriorated. That deterioration began in World War I and worsened during the depression. Then as things grew better in the 1930's, World War II came on and strained the farm plant before it could be put into first-class condition. Failure to maintain it at the prewar level during World War II means that an investment of a

billion dollars would now be required to put it in fair shape.

During 1946 farmers produced an output valued at over 25 billion dollars. In 1944, production ran about 18 billion dollars worth and the farm plant had an estimated worth of 60 billions. But the top third of the farms produced 80 percent of the total output and the other two-thirds only 20 percent. That means that 1.9 million farms produced about 14.4 billion dollars worth of commodities, or $7,500 per farm, and 3.9 million units produced about 3.6 billion dollars worth, or about $900 a farm.

The middle third of the farms had an average production of about $1,500 worth each; this accounted for 16 percent of the total. The lowest third accounted for 4 percent of the total production, or only $400 worth per farm. In both 1939 and 1944 the top tenth of the farms produced half the total marketable output, which was 8 billion dollars worth in the former year and 18 billion in the latter. Nearly 200,000 farms were nonproductive in 1944, but 5 percent, or roughly 300,000 of them, produced commodities that averaged $10,000 in value.

During 1944 there were actually 25,000 farms with an average output to the value of $40,000, and 5,000 where the annual production ran from $100,000 to 1 million dollars in value. While these two last groups accounted for fewer than 1 percent of all farms, they make you realize that there are family farms and also farm factories which hire labor wholesale, often not treating it too well. and have much valuable machinery and equipment. These giant big-value farms are usually specialized--fruits, vegetables, or wheat, for instance.

Measured by acreage the largest farms are in the West; by value of product, in the Corn Belt. The Corn Belt has nearly half the farms with an annual output of $10,000 or more. Some 32 percent of the big producers are in field crops, 20 percent in livestock, 11 in dairying, or vegetables,

and nuts, 8 percent are general farms, 6 percent are in poultry, and the remainder are in forest products or other specialties. The big farms naturally have the most machinery and hired labor. They are big business.

For it costs money to farm that way. Indeed you cannot go into any kind of farming these days without ample capital. New England farms in the $10,000-40,000 class average $3,500 worth of machinery and pay an average of $3,000 a year in wages for hired labor. Farms with production in excess of $40,000 average an investment of $10,000 in machinery and pay out an average of $20,000 a year in wages. What the farm and the buildings cost is your guess, but you can see this is not small-time enterprise.

In 1944, however, a farmer had to produce an output valued at $4,000 a year to guarantee a net income averaging $2,500. In 1939, about about half, and in 1944 about one-fourth of our farms were in the $600 annual production-value class. That means a net annual income of from $300 to $350 cash. So there are still plenty of poor farmers, which in part explains why the Farmers Home Administration had more requests for loans than it has funds to make.

Gross farm income in 1947 was 34.6 billion dollars. This represented 18 billions, net. But femember that the 1947 farm population represented 19.3 percent of the Nation's total population, whereas the income from farming of persons on farms represented only 10½ percent of the national income. Furthermore that was the highest percentage in this category since 1921!

Since 1910 our farm population had dropped from 35 to only 19 percent of the Nation's total population. In 1910, that 35 percent of the population in rural districts received only 13½ percent of the national income. In 1921 the 29½ percent of our population on farms received only 6½ percent of the national income.

In 1932 almost exactly one-fourth of our people were on farms, but they received only 5,2 percent of the national income. Do you wonder that they felt the cards were stacked against them, rebelled, and wanted a new deal? During the New Deal period from 22½ to 25 percent of our people were on farms and their incomes actually attained to 7 or 8 percent of the total national income. But that left a long way to go. Even today's 10½ percent is disproportionately low. Yet wiseacres were saying that we coddled the farmers by shoveling them public money wholesale. During the war only approximately 19.3 percent of our people were on farms and they attained that 10½ percent of the national income; the figures for 1946 were 19.1 and 10 percent, respectively.

Farmers have in recent years received some compensation for the long period during which they produced our food and fiber at a discount. But the farm worker still has a long way to go to attain parity with the urban worker. There are plenty of unsolved problems and the job is not done by any means. Nor, so far, is there any new, completely thought out, comprehensive farm program.

Broadly speaking, as the present writer showed in the Farmer in the Modern World (Rural Sociology, March 1945, Volume 10, No. 1), during peace the economic position of the farmer steadily deteriorated with improvements in farm technology and his entrance into the mercantile system. For years he has received a smaller percentage of the national income than was justly due him. Effective peacetime demand had chronically been insufficient to absorb his output. During peace food prices were not raised exorbitantly because that would have necessitated increasing the wage of urban labor, and industry abhorred that. Hence industrial workers were regularly unable to purchase all the foodstuffs they needed.

Two possible ways of meeting this joint farm-industrial problem have been suggested. The first was direct. It involved dealing with the basic ills, mass unemployment and overproduction for effective demand during peace. But that meant collective action by democratic Government to attain beneficial social and economic objectives. This was not regarded as the American way. Tradition found it revolting. So we leaned to the second course which assumes that nothing can be done about the basic cause of our difficulties, hence efforts are made to treat the effects, or the results of a very imperfect economy. Thus the problem is never solved because the core of the matter remains untouched and symptomatic treatment is but partially effective.

Horton and Shephard made a very similar point in their article mentioned earlier in this chapter. So future American agricultural aid is likely to be introduced on a basis of accepted patterns of public action. Once approaches become established, they crystallize into traditions and remain fixed. Thus we found the Eightieth Congress in the last days of its final session ratifying, with but minor changes, the soil conservation, price support, and parity payment programs which evolved during the period in power of a group the dominant party in that Congress originally professed to detest.

Future farm aid will therefore tend to emphasize governmental activities which contribute to objectives of more than strictly agricultural interest, provided they do not go too far. There is widespread public interest in the conservation of natural resources, reforestation, strengthening the credit structure, stimulating the flow of purchasing power, performing research in the natural sciences, and improving diet and nutrition. Other objectives will undoubtedly arise from time to time and many of them will have their agricultural aid counterparts

As they attain decency and respectability among right-thinking people. There will also be aid programs which appeal to the emotions of the humane liberals by seeking to adjust farm foreclosures, to improve unsanitary rural housing, to eradicate rural slums, and to provide a greater measure of good nutrition and medical care for farm people, provided customary patterns are faithfully observed.

Anthropology obviously has a big place in this picture. Given our mores and customs, the farm-aid pattern is unlikely to conform too closely to a comprehensive plan devised solely as a direct attack on fundamental agricultural and industrial problems. We do not do things that way. There will be areas of overlapping aid and there will be blind spots. The whole will tend, like our system of taxation, to be a patchwork, rather than a broad logically devised system.

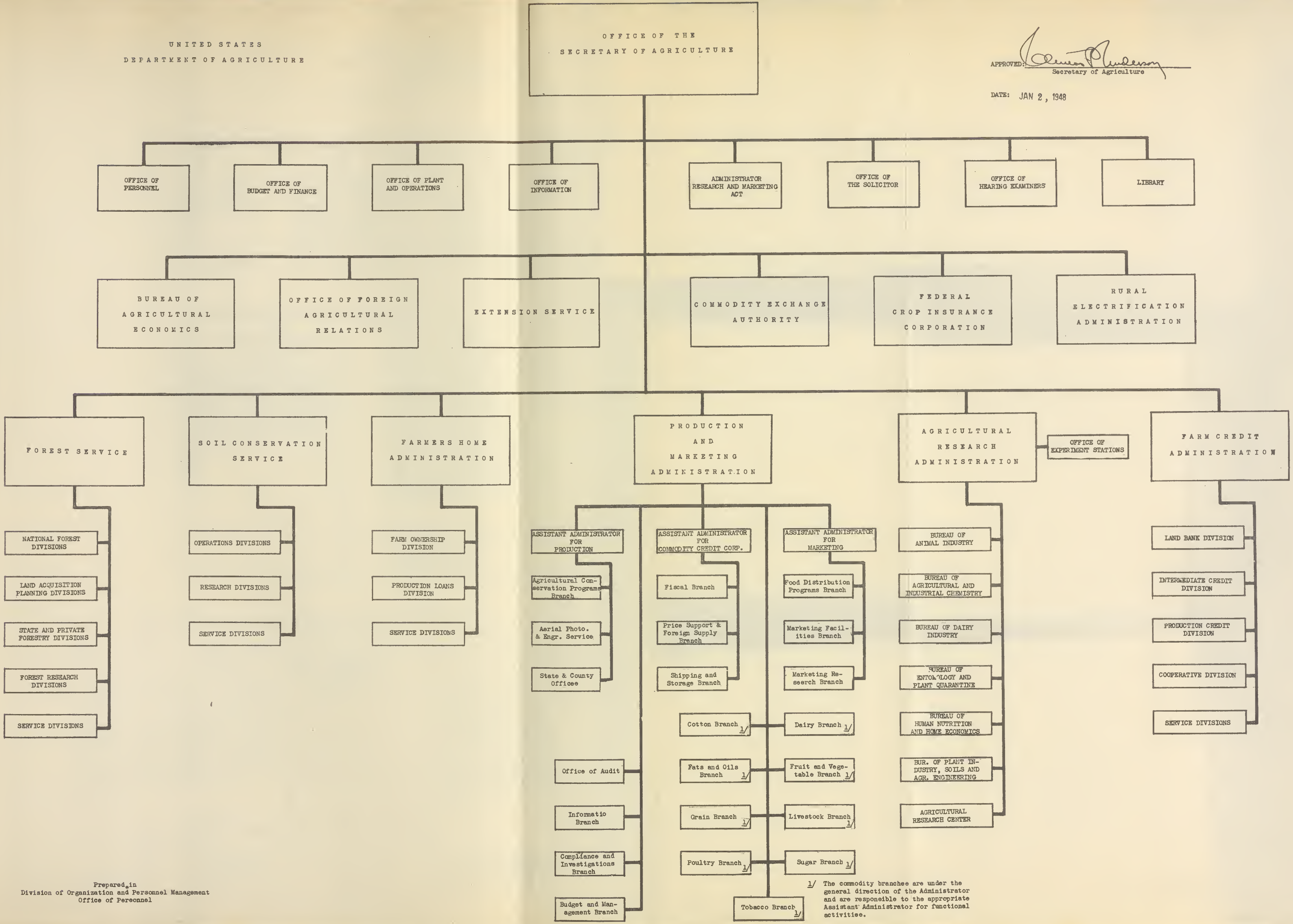
For that is the kind of people we are and we do operate by the democratic process. We do make a better job of making it work than any people in history. But that means that there will almost always be aid arrangements which seriously conflict with one another. For, if two divergent groups are insistent and vociferous about wanting different things, we shall do our best to give the public a little of both. Because slogans and support must be derived from very diverse groups with strongly conflicting interests. That is characteristic of democracy.

Benefits from one type of aid may be counterbalanced by competitive economic burdens arising from other aids, or from actions taken on nonfarm problems. Compromise and half-measures will be common. But, as a whole, we do progress and, unless an atomic war annihilates civilization as we know it, we Americans are quite likely to continue making the seemingly awkward democratic process work remarkably well.

UNITED STATES
DEPARTMENT OF AGRICULTURE

APPROVED: Clinton P. Anderson
Secretary of Agriculture

DATE: JAN 2, 1948


OFFICE OF THE SECRETARY OF AGRICULTURE
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EXTENSION SERVICE
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RURAL ELECTRIFICATION ADMINISTRATION
FOREST SERVICE
NATIONAL FOREST DIVISIONS
LAND ACQUISITION PLANNING DIVISIONS
STATE AND PRIVATE FORESTRY DIVISIONS
FOREST RESEARCH DIVISIONS
SERVICE DIVISIONS
SOIL CONSERVATION SERVICE
OPERATIONS DIVISIONS
RESEARCH DIVISIONS
SERVICE DIVISIONS
FARMERS HOME ADMINISTRATION
FARM OWNERSHIP DIVISION
PRODUCTION LOANS DIVISION
SERVICE DIVISIONS
PRODUCTION AND MARKETING ADMINISTRATION
ASSISTANT ADMINISTRATOR FOR PRODUCTION
Agricultural Conservation Programs Branch
Aerial Photo. & Engr. Service
State & County Offices
Office of Audit
Informatio Branch
Compliance and Investigations Branch
Budget and Management Branch
ASSISTANT ADMINISTRATOR FOR COMMODITY CREDIT CORP.
Fiscal Branch
Price Support & Foreign Supply Branch
Shipping and Storage Branch
Cotton Branch 1/
Fats and Oils Branch 1/
Grain Branch 1/
Poultry Branch 1/
Tobacco Branch 1/
ASSISTANT ADMINISTRATOR FOR MARKETING
Food Distribution Programs Branch
Marketing Facilities Branch
Marketing Research Branch
Dairy Branch 1/
Fruit and Vegetable Branch 1/
Livestock Branch 1/
Sugar Branch 1/
AGRICULTURAL RESEARCH ADMINISTRATION
OFFICE OF EXPERIMENT STATIONS
BUREAU OF ANIMAL INDUSTRY
BUREAU OF AGRICULTURAL AND INDUSTRIAL CHEMISTRY
BUREAU OF DAIRY INDUSTRY
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
BUREAU OF HUMAN NUTRITION AND HOME ECONOMICS
BUR. OF PLANT INDUSTRY, SOILS AND AGR. ENGINEERING
AGRICULTURAL RESEARCH CENTER
FARM CREDIT ADMINISTRATION
LAND BANK DIVISION
INTERMEDIATE CREDIT DIVISION
PRODUCTION CREDIT DIVISION
COOPERATIVE DIVISION
SERVICE DIVISIONS

1/ The commodity branches are under the general direction of the Administrator and are responsible to the appropriate Assistant Administrator for functional activities.

Prepared in
Division of Organization and Personnel Management
Office of Personnel

UNITED STATES
DEPARTMENT OF AGRICULTURE

OFFICE OF THE SECRETARY OF AGRICULTURE

APPROVED: Clinton Anderson
Secretary of Agriculture

DATE: JAN 2, 1948

OFFICE OF PERSONNEL

Plans and directs the personnel management program of the Department.

OFFICE OF BUDGET AND FINANCE

Directs, coordinates and supervises the budgetary and financial affairs of the Department.

OFFICE OF PLANT AND OPERATIONS

Directs departmental housing, records administration, equipment & engineering services; provides central communications, duplicating, & related services.

OFFICE OF INFORMATION

Coordinates and supervises the agricultural information activities of the various bureaus of the Department.

ADMINISTRATOR RESEARCH & MKTG. ACT

Responsible for overall departmental planning and coordination of activities under the Research and Marketing Act of 1946.

OFFICE OF THE SOLICITOR

Performs the legal work for the Department.

OFFICE OF HEARING EXAMINERS

Conducts rule making and quasi-judicial proceedings in compliance with the Administrative Procedure Act.

LIBRARY

Provides library services to all bureaus of the Department and maintains an extensive collection of agricultural information.

BUREAU OF AGRICULTURAL ECONOMICS

Serves as the primary agency in the Department for the collection and dissemination of agricultural statistics and agricultural economic research; coordinates statistical and economic research conducted elsewhere in the Department; prepares crop and livestock estimates; and, supplies the Secretary's Office and other agencies with statistical data and economic analyses relating to current and proposed Department programs and activities.

OFFICE OF FOREIGN AGRICULTURAL RELATIONS

Provides comprehensive information on the World's agricultural and foreign trade; coordinates activities of the Department concerned with exports and imports; formulates and conducts programs involving technical collaboration in the agricultural fields between the United States and foreign countries; and, provides the Secretary of Agriculture with facts relating to export subsidies, import quotas, international trade agreements and other trade measures influencing the economics of agriculture in the United States.

EXTENSION SERVICE

Aims to improve the economic welfare, health, family and community life of the rural population by making the results of Department research available to farmers; coordinates the agriculture and home economics cooperative extension work of the Department and State colleges; directs county agent, home demonstration, and 4-H club work; and, establishes county committees to render advisory assistance to veterans and others wishing to enter into agricultural pursuits.

COMMODITY EXCHANGE AUTHORITY

Administers and is responsible for the enforcement of the Commodity Exchange Act, the orders of the Commodity Exchange Commission, and the orders and regulations of the Secretary of Agriculture under the Act; examines commodity trade practices; investigates complaints and apparent violations of the Act; supervises futures trading and conducts audits of books and records of futures commission merchants, floor brokers, and traders to assure compliance with requirements; and, designates contract markets, reviews exchange rules, and registers futures commission merchants and floor brokers.

FEDERAL CROP INSURANCE CORPORATION

Conducts an insurance program devised to pay premium paying farmers indemnities for losses to their crops from any unavoidable causes. Insures against losses to wheat, flax, corn, cotton, and tobacco crops on an experimental basis in a specified number of counties throughout the United States.

RURAL ELECTRIFICATION ADMINISTRATION

Makes loans for the construction and operation of generating plants, electric transmission and distribution systems for the furnishing of electric energy to unserved persons in rural areas; assists borrowers in the construction and effective operation of such facilities; makes loans for the wiring of consumers' premises and the installation of electrical and plumbing appliances; makes studies and disseminates information concerning the conduct and progress of rural electrification.

Application and Loans Division
Engineering Division
Finance Division
Management Division
Service Divisions

FOREST SERVICE

Through research, cooperative, regulatory, and management functions, promotes full production of forest land and wise use of forest resources (timber, forage, water, wildlife); administers the national forests, forest and range experiment stations and the Forest Products Laboratory; cooperates with states in fire protection, tree distribution, forest management, and other forest activities; plans and administers programs to facilitate the utilization of essential forest products.

National Forest Divisions
Land Acquisition Planning Divisions
State and Private Forestry Divisions
Forest Research Divisions
Service Divisions

SOIL CONSERVATION SERVICE

Administers a national program of soil and water conservation to aid in bringing about physical adjustments in land use that will better human welfare, conserve natural resources and establish a stable and balanced agriculture. The program includes drainage, irrigation, water utilization, land purchase and sale, land development, and flood control. Coordinates these activities with those of cooperating agencies, including soil conservation districts, and conducts necessary related research.

Operations Divisions
Research Divisions
Service Divisions

FARMERS HOME ADMINISTRATION

Administers, through a program of supervised credit, real estate loans and production and subsistence loans to low income farmers and veterans; promotes the ownership of family type farms; provides for equitable farm debt adjustment; administers a water facilities program in arid and semiarid areas of the United States; and administers the interim management and liquidation of resettlement projects and rural rehabilitation projects for resettlement purposes.

Farm Ownership Division
Production Loans Division
Service Divisions

PRODUCTION AND MARKETING ADMINISTRATION

Administers the Department's production, processing, marketing and distribution programs. These include production goals; conservation payments; marketing quotas; marketing service, regulatory and research activities, standards, grades, inspection and market news; school lunch; foreign government needs and supply; domestic price support, loan and other programs conducted by the Commodity Credit Corporation; export diversion, new use, marketing agreements and orders, and other distribution programs.

ASSISTANT ADMINISTRATOR FOR PRODUCTION

Coordinates all production programs of the Administration and directs the Agricultural Conservation Programs Branch, and field activities carried on through state and county farmer committees.

ASSISTANT ADMINISTRATOR FOR COMMODITY CREDIT CORP.

Coordinates all CCC operations within the Administration and directs the Price Support and Foreign Supply Branch, Shipping and Storage Branch, and Fiscal Branch.

ASSISTANT ADMINISTRATOR FOR MARKETING

Coordinates all marketing programs of the Administration and directs the Food Distribution Programs Branch, Marketing Facilities Branch, and Marketing Research Branch.

The following commodity branches are under the general direction of the Administrator and are responsible to the appropriate Assistant Administrator for functional activities:

COTTON
DAIRY
FATS and OIL
FRUIT and VEGETABLE
GRAIN
LIVESTOCK
POULTRY
SUGAR
TOBACCO

AGRICULTURAL RESEARCH ADMINISTRATION

Administers scientific research activities of the Department directed to the improvement of quality and economy of producing farm commodities, development of new and extended uses for such commodities, and the protection and improvement of agricultural resources. The Administration coordinates all research activities (other than economic research) of the agencies of the Department.

Bureaus

Agricultural & Industrial Chem.
Animal Industry
Dairy Industry
Entomology & Plant Quarantine
Human Nut. & Home Economics
Plant Ind., Soils, & Agricultural Engineering

Office of Experiment Stations

FARM CREDIT ADMINISTRATION

Provides a coordinated credit system for agriculture by making long-term and short-term sources of credit available to farmers; provides credit facilities for cooperative marketing, purchasing, and business service organizations. These loans are made to individual farmers through FCA District banking and credit facilities and in addition loans are made to cooperative farm groups.

Production Credit Corp.
Federal Land Banks
Intermediate Credit Banks
Banks for Cooperatives

Prepared in
Division of Organization and Personnel Management
Office of Personnel

UNITED STATES DEPARTMENT OF AGRICULTURE

Table 9.--Summary of Expenditures, Fiscal Years 1932 to 1947, and Estimated Expenditures, Fiscal Years 1948 and 1949 a/

(In Millions of Dollars)

Item	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	Estimated 1948	Estimated 1949
Appropriations and loan authorizations (exclusive of special items shown below)--																		
Agricultural conservation and adjustment payment programs (includes Conservation and Use, Sugar Act, Parity Payments, etc.)	- -	- -	303.5	714.6	553.6	494.3	333.9	692.0	858.9	712.1	715.3	697.9	648.5	336.1	364.5	394.1	282.2	244.8
Section 32 funds	- -	- -	- -	- -	3.2	19.0	34.8	85.1	143.3	220.4	195.8	113.0	96.5	70.1	74.7	77.1	57.0	47.0
National School Lunch Act	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	76.1	62.0	66.0
Marketing services (exclusive of Research and Marketing Act, 1946)	5.0	4.7	3.7	4.2	4.5	4.7	4.9	5.2	5.4	5.5	5.6	5.7	6.4	6.2	6.8	8.8	9.4	9.5
Federal crop insurance, administrative expenses	- -	- -	- -	- -	- -	- -	- -	3.4	3.1	2.9	3.2	1.5	.9	.6	3.4	4.5	5.0	3.9
War Food Administration, salaries and expenses	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	1.1	14.1	16.5	5.5	.5	.5	- -
Emergency supplies for Territories and Possessions	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.8	-10.6	21.6	-4.1	-5.3	-.5	- -	- -
Supply and distribution of farm labor	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	6.2	20.2	30.1	25.0	21.8	12.4	2.3
Soil Conservation Service programs	.3	.3	.2	.3	3.7	21.5	24.7	26.4	31.7	23.7	24.6	24.8	26.4	29.6	36.1	44.9	43.4	41.6
Farmers' Home Administration programs	64.9	36.9	-40.7	110.6	126.1	247.1	174.1	200.4	193.9	217.1	260.5	181.6	123.9	103.7	135.2	150.2	110.3	118.4
Rural electrification	- -	- -	- -	- -	1.4	12.2	49.0	65.3	101.1	77.3	62.5	17.1	20.8	42.8	91.3	198.1	304.9	325.0
Farm Credit activities	2.3	1.3	2.2	2.3	3.9	3.5	3.9	3.4	3.2	2.9	3.8	3.3	1.9	3.3	3.5	3.6	3.2	2.9
Crop and livestock research, and disease, insect, and pest control (exclusive of Research and Marketing Act, 1946)	21.9	19.0	16.0	16.6	15.8	17.2	19.2	28.7	31.6	30.0	28.3	27.1	27.6	29.1	30.6	37.6	39.9	38.9
Control of forest pests	1.3	1.1	.8	.2	1.2	1.4	1.5	1.7	2.1	2.1	2.0	2.5	2.9	2.9	3.4	4.6	3.5	4.0
Research and Marketing Act of 1946	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	7.9	18.0
Forestry	21.6	14.6	10.5	12.5	13.3	18.5	20.7	23.7	28.8	25.2	24.2	27.8	31.8	34.4	39.2	46.7	51.9	52.8
Forest roads and trails	12.3	6.6	6.4	2.0	6.1	8.3	12.5	13.0	11.5	7.7	7.5	4.6	5.4	6.2	7.7	26.4	16.6	15.3
Emergency rubber project	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.5	17.4	11.6	4.8	3.8	.4	- -	- -
Payments to States for experiment stations and extension service (exclusive of Research and Marketing Act, 1946)	13.0	13.0	12.8	13.0	21.7	21.9	23.4	24.3	25.3	25.4	25.8	25.7	25.6	25.7	30.3	33.8	34.7	35.2
Penalty mail (Sec. 2, Public Law 364, 78th Congress)	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	1.4	2.8	2.7	3.0	3.6
Other items	11.7	10.9	9.1	9.5	10.4	11.2	12.3	15.9	18.8	19.1	.6	1.9	22.0	22.0	25.0	40.2	32.8	26.9
Total, above items	154.3	108.4	324.5	885.8	764.9	880.8	714.9	1,188.5	1,458.7	1,371.4	1,365.0	1,148.6	1,108.1	761.4	883.5	1,171.6	1,080.6	1,056.1
Special items, including certain emergency relief, supply and foreign aid, and other funds, and appropriations to other departments and agencies for Department of Agriculture programs--																		
Commodity Credit Corporation, subscriptions to capital stock and restoration of capital impairment	- -	- -	2.8	.1	96.9	- -	94.4	.1	119.6	- -	1.6	- -	- -	256.8	- -	1,563.3	- -	- -
Federal Crop Insurance Corporation, subscriptions to capital stock	- -	- -	- -	- -	- -	- -	- -	5.0	3.0	6.0	6.0	15.0	5.0	- -	30.0	20.0	10.0	- -
Lend-Lease activities	- -	- -	- -	- -	- -	- -	- -	- -	- -	.9	671.3	1,972.6	2,042.8	1,173.1	1,003.1	-205.4	-29.8	- -
Reserve for post-war price support of agriculture (transfer to CCC from Lend-Lease)	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	500.0	- -	- -	- -
UNRRA activities	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	11.0	413.4	546.7	67.0	.1
Assistance to Greece and Turkey	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	.8	.2
Relief assistance to countries devastated by war	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	165.0	30.9
Foreign war relief	- -	- -	- -	- -	- -	- -	- -	- -	- -	5.4	1.8	.1	1.9	1.5	.3	.1	- -	- -
Emergency fund for the President, defense housing	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.0	18.8	16.6	.2	- -	- -	- -	- -	- -
Emergency fund for the President, national defense	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.6	4.2	1.4	.5	.1	.1	.1	- -
Federal Surplus Commodities Corporation, Payment of dividend to Treasury	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.7	- -	- -
Surplus property disposal (transfer from War Assets Administration)	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	.8	1.9	2.1	.1
Farm Credit activities	272.8	105.7	455.6	98.6	51.6	45.5	66.8	45.7	27.2	-283.0	101.8	152.4	-11.9	-33.7	-159.9	-137.1	3.9	-6.5
Soil erosion control program (emergency relief funds)	- -	- -	.9	10.2	21.3	11.7	3.5	11.8	5.7	.7	- -	- -	- -	- -	- -	- -	- -	- -
Drought relief, purchase of livestock in drought-stricken areas, purchase and distribution of seed to farmers, etc.	- -	- -	- -	80.2	2.4	.4	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
National industrial recovery funds expended for rental and benefit payments	- -	- -	2.8	34.7	.1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Other emergency relief projects	2.1	7.1	28.4	36.7	48.5	51.9	22.6	18.2	14.9	11.9	3.8	- -	- -	- -	- -	- -	- -	- -
Total, special items	274.9	112.8	490.5	260.5	220.8	109.5	187.3	80.8	170.4	-256.1	807.7	2,160.9	2,039.4	1,409.2	1,787.8	1,792.3	219.1	24.8
Grand total	429.2	221.2	815.0	1,146.3	985.7	990.3	902.2	1,269.3	1,629.1	1,115.3	2,172.7	3,309.5	3,147.5	2,170.6	2,671.3	2,963.9	1,299.7	1,080.9
Trust funds (total)	- -	- -	1.3	14.4	7.1	13.4	3.1	5.3	6.7	96.3	214.0	118.6	125.2	15.9	28.0	36.0	24.7	20.3

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a/ Amounts shown are based on figures reflected in the Budget for the fiscal years 1944 to 1949, inclusive, and in prior years have been adjusted, where necessary, for comparability with the appropriation structure and organization of the Department as shown in the 1949 Budget. For a reconciliation of the totals shown above for 1947, 1948, and 1949 with the totals shown for the Department of Agriculture in Table 8 of the 1949 Budget see footnote a/ on Table 10.

Prepared by: Office of Budget and Finance
Division of Estimates and Allotments
Allotments and Apportionments Section
January 21, 1948

APPROPRIATIONS, REAPPROPRIATIONS, AND REA AND FHA BORROWING AUTHORIZATIONS, FISCAL YEARS 1839 to 1948

(Not Adjusted for comparability)

Fiscal Year	Amount	Fiscal Year	Amount	Fiscal Year	Amount
1839	$ 1,000	1876	$264,120	1913	$25,415,013
1840		1877	313,687	1914	25,065,218
1841		1878	347,640	1915	29,917,951
1842	1,000	1879	215,900	1916	29,074,869
1843		1880	212,000	1917	37,365,506
1844	2,000	1881	264,300	1918	73,372,284
1845	2,000	1882	392,365	1919	117,290,605
1846	3,000	1883	686,942	1920	149,393,310
1847		1884	648,982	1921	151,540,989
1848	3,000	1885	878,430	1922	135,692,087
1849	4,500	1886	825,300	1923	88,607,016
1850	4,500	1887	873,642	1924	88,883,103
1851	4,500	1888	1,866,719	1925	79,823,642
1852	5,500	1889	1,976,293	1926	165,926,475
1853	5,000	1890	2,021,195	1927	153,393,706
1854	15,000	1891	2,137,075	1928	148,986,948
1855	25,000	1892	3,538,865	1929	172,620,069
1856	55,000	1893	3,323,061	1930	203,360,145
1857	75,000	1894	3,708,856	1931	347,598,697
1858	63,500	1895	3,612,149	1932	279,616,139
1859	60,000	1896	3,989,150	1933	287,046,847
1860	40,000	1897	3,636,264	1934	540,794,575
1861	60,000	1898	3,573,552	1935	867,062,594
1862	64,000	1899	4,089,416	1936	709,743,625
1863	80,000	1900	4,131,597	1937	731,025,017
1864	119,770	1901	4,427,105	1938	983,473,541
1865	150,604	1902	5,091,440	1939	1,494,776,194
1866	168,088	1903	6,216,818	1940	1,604,107,610
1867	199,100	1904	6,745,801	1941	1,494,299,183
1868	279,020	1905	6,767,251	1942	1,550,272,447
1869	210,198	1906	9,189,152	1943	1,091,375,547
1870	156,440	1907	12,695,293	1944	1,152,746,775
1871	188,180	1908	13,881,219	1945	881,231,338
1872	197,070	1909	16,588,790	1946	1,254,442,681
1873	202,440	1910	17,684,134	1947	1,290,181,754
1874	277,690	1911	19,450,339	1948	968,951,309
1875	357,380	1912	21,103,646		

Note: Amounts shown for fiscal years 1839 to 1862, inclusive, were appropriated to the Patent Office and the Department of the Interior for collection of agricultural statistics, procurement, propagation and distribution of seeds, and other agricultural purposes. The act of May 15, 1862 (12 Stat. 387) established the agricultural activities of the Federal Government independently under a Commissioner of Agriculture, and thereafter appropriations were made to the Department of Agriculture.

DEPT. OF AGRICULTURE APPROPRIATION BILL FOR 1949
Hearings before the Subcommittee of the Committee on
Appropriations House of Representatives
80th Congress, Second Session of the Dept. of Agriculture
Appropriation Bill for 1949 - Part 2 Pg. 1151

APPENDIX

MAJOR CHANGES IN THE ORGANIZATION OF THE DEPARTMENT OF AGRICULTURE AND IN ITS CONSTITUENT AGENCIES SINCE 1933

The Agricultural Adjustment Administration was created May 12, 1933, in response to the passage of the first Agricultural Adjustment Act. By Executive Order No. 9069 it became part of the Agricultural Conservation and Adjustment Administration, February 23, 1942. It was renamed the Agricultural Adjustment Agency, February 26, 1942, and became part of the Food Production Administration in response to Executive Order No. 9280, December 5, 1942. Executive Orders Nos. 9322, March 26, and 9334, April 19, 1943, made it part of the War Food Administration, and it became an independent agency therein January 21, 1944. Secretary's Memorandum No. 1118, August 18, 1945, made it part of the Production and Marketing Administration.

The Soil Conservation Service was created as the Soil Erosion Service, Department of the Interior, on September 19, 1933, as a result of passage of the National Industrial Recovery Act, which provided for soil-erosion control as a means of unemployment relief. The President transferred this Service to the Department of Agriculture, March 25, 1935, and Department erosion-control activities were consolidated in it April 1. The Soil Conservation Service was established as a result of the Soil Erosion Act, approved April 27, 1935. Executive Order No. 9069, February 23, 1942, combined it with the Agricultural Adjustment Administration, the Federal Crop Insurance Corporation, and the Sugar Division to form the Agricultural Conservation and Adjustment Administration, a change announced December 13, 1941, however. It became part of the Food Production Administration by Executive Order No. 9280, December 5, 1942, and Executive Orders Nos. 9322, March 26, and 9334, April 19, 1943, made it part of the War Food Administration, in which it became an independent agency January 21, 1944. Secretary's Memorandum No. 1118, August 18, 1945, made it an agency of the Department of Agriculture again.

The Commodity Exchange Administration was established July 1, 1936, by Secretary's Memorandum No. 700; it superseded the Grain Futures Administration, which had been created under provisions of the Grain Futures Act of September 21, 1922. Pursuant to Executive Order No. 9069, February 23, 1942, the Administration became part of the Agricultural Marketing Administration, which was transformed into the Agricultural Marketing Service, in accordance with Secretary's Memorandum No. 830, July 7, 1939, pursuant to the Agricultural Appropriation Act approved June 30, 1939. It went into the Food Distribution Administration under provisions of Executive Order No. 9280, December 5, 1942, and became part of the War Food Administration under Executive Orders Nos. 9222, March 26, and 9334, April 19, 1943. Secretary's Memorandum No. 1118, August 18, 1945, made it part of the Production and Marketing Administration. Memorandum No. 1185, January 21, 1947, established the Commodity Exchange Authority effective February 1, 1947, under an administrator directly responsible to the Secretary.

The Farm Security Administration became the Farmers Home Administration under the Farmers Home Administration Act approved August 14, 1946. Its work began in the Federal Emergency Relief Administration and the State Rehabilitation Corporations, these functions being brought later into the Resettlement Administration, established as an independent unit by Executive Order No. 7027, April 30, 1935. Executive Order

Should it appear desirable material of this character could be deleted from the major text and placed in some such appendix as this if it seems too much to interrupt the narrative.

~~probably averaged no more than 85 percent of the efficiency of those employed in prewar years. Yet production per worker, per acre, and per unit of livestock steadily climbed. To quote Sherman E. Johnson:~~

~~"By a fortunate conjuncture of circumstances progress in mechanization, an increased use of lime and fertilizer, cover crops, and other conservation practices, use of improved varieties, a better balanced feeding of livestock, and more effective control of insects and disease had all gathered momentum over the several years preceding World War II. Their current effects were obscured by the drought and depression of the 1930's, but developments had reached a stage where these improvements could be effectively combined and used in an all-out production effort. The result was an unprecedented production increase."~~

No. 7530, December 31, 1936, made the Resettlement Administration part of the Department of Agriculture, where it assumed the name Farm Security Administration, September 1, 1937, in response to Secretary's Memorandum No. 732. Executive Order No. 9280, December 5, 1942, made it part of the Food Production Administration, which was consolidated into the War Food Administration by Executive Orders Nos. 9322, March 26, and 9334, April 19, 1943. It became an independent agency of the Administration under Administrator's Memorandum No. 27, Supplement 4, January 21, 1944, and Secretary's Memorandum No. 1118, August 18, 1945, made it an agency of the Department of Agriculture again. The Farmers Home Administration Act of 1946 abolished it as such and authorized creation of a Farmers Home Administration; Secretary's Memorandum No. 1171, August 19, 1946 established it and it began to function as such November 1.

The Agricultural Marketing Service was created by Secretary's Memorandum No. 830, July 7, 1939, the work having originally been set up by Secretary's Memorandum No. 783, October 6, 1938. It became part of the Agricultural Marketing Administration pursuant to Executive Order No. 9069, February 23, 1942, and was consolidated into the Food Distribution Administration by Executive Order No. 9280, December 5, 1942. It also became part of the War Food Administration pursuant to Executive Orders Nos. 9322, March 26, and 9334, April 19, 1943, and part of the Production and Marketing Administration, under Secretary's Memorandum No. 1118, August 18, 1945.

The Federal Crop Insurance Corporation was created by the Agricultural Adjustment Act of February 16, 1938. In response to Executive Order No. 9069, February 23, 1942, it became part of the Agricultural Conservation and Adjustment Administration, which went into the Food Production Administration, created December 10, 1942, in response to Executive Order No. 9280, December 5, 1942. The then Office of Production was abolished January 1, 1945, and the Federal Crop Insurance Corporation became an independent agency of the War Food Administration. Secretary's Memorandum No. 1118, Supplement 1, October 8, 1945, established it as a bureau in the Production and Marketing Administration. Secretary's Memorandum No. 1196, June 26, 1946, made it a separate unit in the Department as of the following July 1.

The four Regional Research Laboratories of the Bureau of Agricultural and Industrial Chemistry were created by the Agricultural Adjustment Act of February 16, 1938.

The Farm Credit Administration was created by Executive Order No. 6084, dated March 27, and effective May 27, 1933; it was formed by combining several existing agricultural credit agencies. It became part of the Department of Agriculture pursuant to Reorganization Plan No. 1, as of July 1, 1939. Executive Order No. 9280, December 5, 1942, made it part of the Food Production Administration, but it returned to its former status as a separate agency of the Department under Executive Orders Nos. 9322, March 26, and 9334, April 19, 1943. Certain functions were transferred from it to Farmers Home Administration by the Act of August 14, 1946.

The Rural Electrification Administration was established as an independent agency by Executive Order No. 7037, May 11, 1935, and became part of the Department of Agriculture July 1, 1939, pursuant to Reorganization Plan No. II. Statutory provision for the agency was made in the Rural Electrification Act of 1936, approved May 20 that year.

The Commodity Credit Corporation was established October 17, 1933, under Executive Order No. 6340, dated October 16, and became part of the Department of Agriculture pursuant to Reorganization Plan No. I, effective July 1, 1939. Its original creation was pursuant to the National Industrial Recovery Act of June 16, 1933. Executive Orders Nos. 9322, March 26, and 9334, April 19, 1943, made it part of the War Food Administration, upon the termination of which, Secretary's Memorandum No. 1118, August 18, 1945, consolidated it into the Production and Marketing Administration.

Research work on soils was transferred to the Bureau of Plant Industry from the Bureau of Chemistry and Soils in October 1938, the remainder of the soils work then being placed in Soil Conservation Service. The Bureau of Agricultural Engineering was combined with the remaining chemical work and the Bureau of Agricultural Chemistry and Engineering was created by Secretary's Memorandum No. 789, October 16, 1938. In February 1943, agricultural engineering research was placed in the Bureau of Plant Industry which changed title then to the Bureau of Plant Industry, Soils, and Agricultural Engineering, while the Bureau of Agricultural Chemistry and Engineering became the Bureau of Agricultural and Industrial Chemistry, the four Regional Research Laboratories mainly constituting it. The Bureau of Home Economics became the Bureau of Human Nutrition and Home Economics in February 1943, after transfer to it of certain nutrition work previously carried on in the Bureau of Agricultural Chemistry and Engineering.

In October 1938 the Secretary made the Bureau of Agricultural Economics primarily a research and planning organization, appointed a director of marketing to coordinate all phases of the Department's marketing activities, and placed all physical operations in land use programs for farm land under the Soil Conservation Service. Under Secretary's Memorandum No. 1139, effective December 31, 1945, the Bureau's responsibility for coordinating the statistical work of the Department (cf. Secretary's Memorandum No. 1042, October 13, 1943) was strengthened, and it became the Department's primary agency for the collection and dissemination of agricultural statistics, for economic research, and the dissemination of the results thereof. Responsibility for leadership in general agricultural program planning was transferred to the Office of the Secretary.

ORIGIN OF THE OLDER UNITS AND LINES OF WORK

The following paragraphs indicate how the various lines of work undertaken in the Department of Agriculture originated, when the various sections, divisions, offices, and bureaus acquired formal status, and, in general, the origin of the departmental units established before 1933. The date given is not always precisely the one on which the unit was formally established. It is sometimes the date of the commissioner's or secretary's report in which the unit was mentioned as having been created, established, or transferred; it is sometimes the date of the appropriation act authorizing such action.

Work on Plants. The Department Propagating Garden was started in 1858 under the supervision of the Commissioner of Patents who had, in 1856, engaged a botanist at the suggestion of Joseph Henry, Secretary of the Smithsonian Institution. Soon after the creation of the Department in 1862 the Division of Gardens and Grounds was organized under a superintendent. The Division of Botany was established in March 1869, and it maintained the United States National Herbarium until July 1, 1896, when transfer to the Smithsonian took place. The Division of Pomology was set up in 1886 and that of Vegetable Physiology and Pathology, which began as a Section of Mycology in the Division of Botany in 1886, attained division status in 1890. Fiber investigations began in the Division of Statistics in 1889 and the Office of Fiber Investigations was established in 1890. The Division of Agrostology originated in the Division of Botany and became independent July 1, 1895; its field was the study of forage crops and grasses. Plant exploration became a recognized activity in 1897. All work in the field of plant industry was combined as the Bureau of Plant Industry in 1901. In 1943 it became the *Bureau of Plant Industry, Soils, and Agricultural Engineering*. Both agricultural extension work and studies in agricultural economics had their origin in this bureau.

Statistics and Economics. The collection of agricultural statistics was an activity that began in the Patent Office in 1839. With the establishment of the Department, the Division of Statistics was set up in 1863. It grew into the Bureau of Statistics in 1903, absorbing the Division of Foreign Markets organized the previous year. The Bureau of Statistics became the Bureau of Statistics and Crop Estimates in 1913 and the Bureau of Crop Estimates in 1914. A second line of activity began in 1913 with the creation of the Office of Markets and the Rural Organization Service. These were merged in 1915 as the Office of Markets and Rural Organization, which in 1917 became the Bureau of Markets. The Bureau of Crop Estimates was combined with it to form the Bureau of Markets and Crop Estimates in 1921. Still another line of economic research derived from the farm management work conducted by the Bureau of Plant Industry. The activity was organized into the Office of Farm Management in 1905 and came under the Secretary's Office in 1915. By 1920 the Office of Farm Management and Farm Economics was an independent office of the Department. Finally in 1922 the *Bureau of Agricultural Economics* was designated in order to combine the economic research. In October 1938 the Bureau was named a central research and planning agency of the Government.

Chemistry. The chemist of the Department originally covered a wide field and even analyzed many nonagricultural products. The Department's first chemist was appointed August 21, 1862, and the Division of Chemistry was established the same year. It became the Bureau of Chemistry in 1901. Enforcement of the Food and Drugs Act of 1906 was lodged in this bureau though its other activities were primarily in the field of research. In 1927 the two lines of activity were separated and the regulatory work went into an independent unit first called the Food, Drug, and Insecticide Administration, later merely the Food and Drug Administration. At the same time the Bureau of Soils was combined with what remained of the old Bureau of Chemistry as the Bureau of Chemistry and Soils. In 1938 research work in soils was transferred to the Bureau of Plant Industry and the other soil work to the Soil Conservation Service. At the same time the Bureau of Agricultural Engineering was combined with the nonsoil work of the Bureau of Chemistry and Soils and the unit became the Bureau of Agricultural Chemistry and Engineering. In 1943 it became the *Bureau of Agricultural and Industrial Chemistry*.

Entomology. Entomology early engaged the attention of those in charge of agricultural work and the services of an entomologist were utilized from time to time by the Patent Office. A Department entomologist was appointed in 1863, when the Division of Entomology was established. The Bureau of Entomology was created in 1904. Work in entomology was combined with that concerned with plant quarantine in 1934 and the *Bureau of Entomology and Plant Quarantine* resulted. Activities later carried on in the Bureau of Biological Survey originated in this bureau.

Meteorology. Studies of the weather and weather statistics naturally attracted the attention of those in charge of agricultural work quite early. Joseph Henry contributed articles on meteorology to the agricultural reports as early as 1857 and in 1863 the Department began to publish weather data it derived from the Smithsonian Institution. The first Commissioner of Agriculture suggested that weather reports be telegraphed in to the Department, compiled, and then sent out for the information of farmers. On February 4, 1870, the Congress authorized such a service but it was conducted by the Army Signal Corps for about 20 years. An act passed October 1, 1890, provided for the transfer of the *Weather Bureau* to the Department of Agriculture which transfer became effective July 1, 1891. In 1940 the Weather Bureau was transferred to the Department of Commerce. Departmental work on soils originated in this bureau.

Forestry. Forestry was much discussed in the report of the Commissioner of Agriculture for 1875, and in 1876 a forester was appointed. The Division of Forestry was organized by the Commissioner of Agriculture in 1881 and reorganized by Congress in 1886. A Bureau of Forestry was created in 1901. On February 1, 1905, custody of the national forests was transferred from the Department of the Interior and was combined with the forestry work of the Department of Agriculture as the *Forest Service.*

Veterinary Medicine and Farm Animals. The diseases of farm animals were much discussed in early reports of those in charge of agricultural work. Interest in animal breeding came later and, somewhat later still, in the nutrition of farm animals. While animal diseases received attention even when the agricultural work was still in the Patent Office, it was not until 1879 that a Department veterinarian was appointed and a Veterinary Division was established. Outbreaks of contagious pleuropneumonia, cattle tick fever, and foot-and-mouth disease soon focused national attention upon the problem of animal plagues and the *Bureau of Animal Industry* was created by act of Congress in 1884. It was the first unit of full bureau status in the Department.

Biology of Birds and Mammals. Economic ornithology and mammalogy began to be studied in the Division of Entomology in 1885 and a Division of Economic Ornithology and Mammalogy was set up in 1886. This became the Division of Biological Survey in 1896 and the *Bureau of Biological Survey* in 1906. This bureau was transferred to the Department of the Interior in 1939 and became part of the Fish and Wildlife Service in 1940.

Office of Experiment Stations. The Office of Experiment Stations had to be set up in 1888, after the Hatch Act had been passed by Congress in 1887, to supervise the cooperative work between the Department and the State agricultural experiment stations and the making of payments to the stations as authorized by that act. The agency became part of the States Relations Service in 1915 and, when this agency was abolished in 1923, the *Office of Experiment Stations* was established as an independent unit. The Department's work in home economics and on human nutrition originated in this agency.

Publications. All higher Department officials, particularly the first Commissioner and the first Secretary of Agriculture, realized the great importance of publishing agricultural information promptly. A Section of Records and Editing was set up in the Division of Statistics in 1889 and in 1890 it was reorganized as the Division of Records and Editing. It became the Division of Publications in 1895.

The service was much further improved in 1923, it was placed in the *Office of Information* when this unit was established in 1925 to handle press and publications work, and radio work followed in 1926.

Dairying. Dairy studies early occupied the attention of the Department. As an organized activity they were first carried on in the Bureau of Animal Industry about 1889. The Division of Dairying was created in that bureau July 1, 1895. An act of Congress passed 1924 established the Bureau of Dairying, in response to the desires of the dairy industry, and it became the *Bureau of Dairy Industry* in 1926.

Public Roads. The agricultural report for 1888 dwelt on the urgent necessity for study of road construction and in 1893 a special agent and engineer for road inquiry was appointed. The Office of Road Inquiry was established the same year. The Office of Public Roads was created in 1905 and it became the *Bureau of Public Roads* in 1918. In 1939 this work was transferred to the Federal Works Agency.

Home Economics. Subjects essentially in the field of what would now be regarded as home economics were discussed in the reports of the first Commissioner of Agriculture in 1862, 1863, and 1866. In 1894 the study of human nutrition was undertaken in the Office of Experiment Stations by special act of Congress. This and related work formed part of the States Relations Service created in 1915, and in 1923, when that agency was dissolved, the Bureau of Home Economics was formed as an independent unit largely in response to the wishes of groups of citizens who desired this. In 1943 it was reorganized to include the Division of Protein and Nutrition Research formerly of the BPISAE and became the *Bureau of Human Nutrition and Home Economics*.

Work on Soils. The analysis of soils was one of the first duties of early departmental chemists. In 1894 the Division of Agricultural Soils was set up in the Weather Bureau mainly to study the relation between soil and climate. It became an independent unit about 1895, and its name was changed to Division of Soils during the fiscal year 1896-97. The Division became the Bureau of Soils in 1901 and then was combined with the Bureau of Chemistry in 1927 to form the Bureau of Chemistry and Soils. In October 1938 soil research work was transferred to the Bureau of Plant Industry and all soil work relating to the action programs went into the Soil Conservation Service. In 1943 the former was transferred to the *Bureau of Plant Industry, Soils, and Agricultural Engineering*.

Agricultural Engineering. Studies of farm housing and plans for the building of better farm homes appeared in early agricultural reports -- 1842, 1859, and so on. The early reports also contained frequent discussions of newly patented agricultural machinery. But agricultural engineering work in the Department originated in the irrigation investigations undertaken by the Office of Experiment Stations in 1898. Research in land drainage followed in 1902. All this work was transferred to the Office of Public Roads in 1915. The Bureau of Agricultural Engineering was established in 1931; it included also the farm machinery studies once carried on in the Office of Farm Management. It was a short-lived unit for in October 1938 it was combined with a portion of the old Bureau of Chemistry and Soils as the Bureau of Agricultural Chemistry and Engineering. In 1943 it became part of the *Bureau of Plant Industry, Soils, and Agricultural Engineering*.

Extension Work. Farmers' cooperative demonstration work began in the Bureau of Plant Industry in 1904 and was transferred to the States Relations Service in 1914. Extension work was mentioned as such in the Reports of the Secretary beginning in 1915. In 1923 when the States Relations Service was abolished the *Extension Service* became an independent unit.

Food and Drug Work. Work on foods naturally arose in the Department most concerned with our food supply. Food adulterations began seriously to engage departmental attention about 1880, and analyses of adulterated foods and drugs were published continuously thereafter until 1906 when the first Food and Drugs Act was passed and the Bureau of Chemistry was charged with its enforcement. This regulatory work was placed in a charge of a separate unit, the Food, Drug, and Insecticide Administration, in 1927, which also absorbed the duties of the Insecticide and Fungicide Board set up in 1911 to enforce the Insecticide Act. The unit became the *Food and Drug Administration* in 1930 and was transferred to the Federal Security Agency in 1940.

Quarantine. The Federal Horticultural Board was established in 1913 to enforce quarantine concerned with the spread of plant diseases. It was abolished in 1928 when the Plant Quarantine and Control Administration was created. In 1933 this unit became the Bureau of Plant Quarantine. In 1934 it was combined with the Bureau of Entomology, and the appropriations act of 1935 carried funds for the *Bureau of Entomology and Plant Quarantine*.

hould this seem desirable the material about major legislative enactments affecting agriculture could be deleted from the text and presented in this form, edited and condensed somewhat.

U. S. DEPARTMENT OF AGRICULTURE

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Mr. Harding

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ABRIDGED LIST OF FEDERAL LAWS APPLICABLE TO AGRICULTURE
(Including Reference to Former Functions)

(December 7, 1796: George Washington in his last message to Congress recommended the use of public funds in aid of agriculture and the establishment of boards to collect and diffuse agricultural information. January 11, 1797: A committee of the House of Representatives recommended the establishment of a national agricultural board or society. The House established a committee on agriculture in 1820 and the Senate one in 1825. In 1828 Congress authorized the publication of a manual, prepared by Richard Rush, Secretary of the Treasury, and containing the best available information on the culture and manufacture of silk, and also of Count Von Hazzi's Treatise on the Rearing of Silk-Worms.)

March 3, 1839: Congress authorized the Commissioner of Patents to expend the sum of $1,000 for the collection of agricultural statistics and for other agricultural purposes. (5 Stat. 353.)

May 15, 1862: A law establishing a Department of Agriculture under a commissioner, the general design and duties of which were to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture, in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants. (12 Stat. 387.)

June 2, 1862: The first Morrill Land-Grant College Act, granting (origin of grants-in-aid) to each of the States an amount of public land equal to 30,000 acres for each Senator and Representative it had in Congress, or the equivalent in land script, proceeds from the sale of which were to be used for the endowment, support, and maintenance of at least one college where the leading subjects would be branches of learning related to agriculture and the mechanic arts. August 30, 1890: The second Morrill Land-Grant College Act providing further endowments for more precisely specified educational purposes, and also authorizing the establishment of colleges for Negroes in States or Territories where a distinction of race and color is made in the admission of students. March 4, 1907: The so-called Nelson Amendment appropriating $25,000 to colleges of agriculture and mechanic arts with the provision that a portion of the funds might be used for the training of teachers of elementary agriculture. (7 U.S.C. 301-08, 321-28.)

June 16, 1880: The first provision for Congressional seed distribution appeared in the Appropriation Act of June 16, 1880 (21 Stat. 294), making appropriations for the fiscal year 1881. Appropriations for the purchase, etc., and distribution of valuable seeds, bulbs, etc., with provisions for allotment of an equal proportion thereof to Senators, Representatives, and Delegates to Congress for

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Note: U. S. Code citations are to the 1940 Edition: in the absence of code references, citations are to U. S. Statutes at Large.

distribution among their constituents, provisions of these successive acts varying in details from year to year, were made annually in the agricultural appropriation acts up to and including the fiscal year 1923. The provisions of the fiscal year 1923 may be found in the Act of May 11, 1922 (42 Stat. 516). Congressional distribution of seeds, etc., was discontinued in the Appropriation Act for the fiscal year 1924 (42 Stat. 1289). It will be noted that seed distribution is provided for in the Organic Act establishing the Department of Agriculture. This act provides that the design and duties of the Department of Agriculture shall be to acquire and to diffuse among the people useful information on agriculture and to procure, propagate and distribute new and valuable seeds and plants, and that the Secretary of Agriculture shall collect new and valuable seeds and plants, shall test and propagate them, and shall distribute them among agriculturists. Act of May 15, 1862 (12 Stat. 387). This law still remains in effect (5 U.S.C. 511, 514).

May 29, 1884: An act establishing the Bureau of Animal Industry, intended to prevent exportation of diseased cattle, and the spread of contagious infectious, and communicable diseases of domestic animals and live poultry. (7 U.S.C. 391.)

March 2, 1887: The Hatch Agricultural Experiment Stations Act, authorizing the establishment, under the direction of the land-grant colleges, of stations in the several States to conduct experiments relating to agricultural subjects, these stations forming departments of the land-grant colleges; March 16, 1906: The Adams Act for the same general purposes as the Hatch Act, but emphasizing original researches or experiments; no part of the Adams Act can be used for printing and only 5 percent for buildings or purchase of land. February 24, 1925 The Purnell Act provides a total of $60,000 to each State; emphasizing economic and social research and permitting expenditure of 10 percent for buildings and land; also providing for printing. June 29, 1935: The Bankhead-Jones Law providing for a government allotment of $5,000,000 for agricultural research, 60 percent of which is allotted to the State experiment stations; and 40 percent to the Secretary of Agriculture; funds allotted to the States in an amount which bears the same ratio to the total amount to be allotted as the rural population of the State bears to the rural population...of all States. To receive these funds each State must show an expenditure from State funds of equal amounts for agricultural investigation. These funds are to be used for "research into laws and principles underlying basic problems of agriculture in its broadest aspects." June 20, 1936: Extension of the benefits of Adams, Purnell, and Capper-Ketcham acts to the Territory of Alaska. August 28, 1937: An act to extend the benefits of Section 21 of the Bankhead-Jones Act to Puerto Rico. (7 U.S.C. 362, 363, 365, 368, 377-79.) April 24, 1948: This Act amends the Act of May 29, 1884, by adding that the Secretary of Agriculture is authorized to establish research laboratories, including the acquision of necessary land, buildings, or facilities and also the making of research contracts under the authority contained in section 10(a) of the Bankhead-Jones Act of 1935, as amended by the Research and Marketing Act of 1946, for research and study, in the U.S. or elsewhere, of foot-and-mouth disease and other animal diseases which in the opinion of the Secretary constitute a threat to the livestock industry of the U.S.

February 9, 1889: The law making the USDA an executive department under supervision and control of a Secretary of Agriculture to be appointed by the President by and with the advice and consent of the Senate. (5 U.S.C. 512.)

August 30, 1890: An act to suspend the importation of all or any class of livestock for a limited time when necessary to protect animals in the United States from infectious or contagious diseases and to set up quarantines of imported animals when need arises; the act also provided for the inspection of animals imported and those intended for export. (21 U.S.C. 101-07.)

October 1, 1890: An act transferring the meteorological work then carried on by the Army Signal Corps to the Department of Agriculture, and creating the Weather Bureau. (15 U.S.C. 311.)

March 3, 1891: An act authorizing the President to reserve public lands as forest reserves (now called National Forests). (16 U.S.C. 471 and 473.) June 4, 1897: An act containing the principal provisions governing the administration of all national forests and authorizing the promulgation of rules and regulations and the establishment of service necessary in regulating their occupancy and use. (16 U.S.C. 471, 475-482, and 551.) February 1, 1905: An act placing such reservations under the administrative jurisdiction of the Department of Agriculture. (16 U.S.C. 472.) March 1, 1911: An act creating the National Forest Reservation Commission and authorizing the acquisition, with the Commission's approval, of lands on the watersheds of navigable streams needed in regulating the flow of such streams or for the production of timber; also authorizing cooperation with States in protecting from fire private and State forest lands located on the watersheds of navigable waters. (16 U.S.C. 480, 500, 513-519, 521, 552, and 563.)

March 2, 1897: An act, as amended, to control the importation of tea inferior to established standards and setting up a board of experts to prepare and submit to the Secretary of Agriculture standard samples of tea. The provisions of this act were carried out by the Food and Drug Administration which was transferred from the Department of Agriculture to the Federal Security Administration by Reorganization Plan IV. (21 U.S.C. 41-50.)

May 9, 1902: The adulterated and renovated butter act, regulating the manufacture of these products under special taxes and providing inspection of establishments under authority of the Secretary of Agriculture, and the promulgation by him of such regulations as might be required. (26 U.S.C. 2320-26.)

June 3, 1902: An act which made the Divisions of Soils, Forestry, and Chemistry into Bureaus and combined the Divisions of Botany, Pomolgy, Vegetable physiology and Pathology, Agrostology, and Experimental Gardens and Grounds into the Bureau of Plant Industry. (5 U.S.C. 524.)

February 2, 1903: An act authorizing regulation of the exportation and transportation of livestock, from any place in the United States where the Secretary of Agriculture has reason to believe communicable livestock diseases exist, to any other State, Territory, or the District of Columbia, or to foreign countries; and authorizing the Secretary to take such measures as he may deem proper to prevent the introduction into, or the dissemination within, the United States of communicable diseases of animals. (21 U.S.C. 112, 113, 120, 121.)

March 3, 1905: The Insect Pest Act, as amended, forbidding interstate transportation of enumerated insect pests via any means, except for scientific purposes under such rules and regulations as are promulgated by the Secretary of Agriculture. (7 U.S.C. 141-48.)

March 3, 1905: An act empowering the Secretary of Agriculture to quarantine any State or Territory or the District of Columbia when he determines that livestock therein are affected with any communicable disease, and prohibiting the movement of livestock therefrom except upon compliance with regulations prescribed by him. (21 U.S.C. 123-124.)

June 29, 1906: The Twenty-eight Hour Law, providing for care of animals in transit, regulating interstate transportation of animals, confinement, unloading for rest, water and feeding. (45 U.S.C. 71-4.)

June 30, 1906: Food and Drugs Act (34 Stat. 768), superseded by Federal Food, Drug, and Cosmetics Act of June 25, 1938. (52 Stat. 1040.)

March 4, 1907: The Meat Inspection Act authorizing the examination of animals, meat, meat-food products, used in interstate or foreign commerce, and inspection of slaughter and packing establishments, and regulating exportation of livestock. (21 U.S.C. 71-96.) June 10, 1942: An act authorizing the Secretary of Agriculture upon application by intrastate commerce meat-packing establishments to provide for Federal meat inspections at such establishments in order to facilitate the purchase of meat and meat-food products by Federal agencies during the war emergency. (56 Stat. 351.)

May 23, 1908: Dairy Products Exports Act which promotes commerce with foreign countries in connection with dairy products by preventing the exportation of such products unless the same have been inspected and certified. (21 U.S.C. 94a.)

May 23, 1908: Provided that 25 percent of all moneys received by the national forests shall be paid to the States or Territories for the benefit of public schools and public roads of the counties in which the national forests are situated. (35 Stat. 260.)

April 26, 1910: The Insecticide Act, prohibiting the sale or transportation in interstate commerce of adulterated or misbranded insecticides and fungicides and providing for seizure of same. (7 U.S.C. 121-134.) June 25, 1947: Federal Insecticide, Fungicide, and Rodenticide Act. This act regulates the marketing of economic poisons and devices. It makes it unlawful to distribute, sell or deliver in the U. S., or its territories, or foreign countries, certain economic poisons, and makes provisions for the registration of such poisons. The Secretary of Agriculture was authorized to make rules and regulations for carrying out the provisions of the bill, and the bill provided for penalties of fine and imprisonment for violations thereof. It also provided for seizure of such economic poisons, whether domestic or imported, and also exclusion of those imported. The provisions of the bill took effect upon enactment, except those pertaining to rodenticides and herbicides, 6 months after enactment, and as to insecticides and fungicides and other economic poisons, one year after enactment. This act repealed, one year after enactment, the Insecticide Act of 1910, approved April 26, 1910, (36 Stat. 331, 7 U.S.C. 121-134. Public Law 110 - 80th Cong.)

August 3, 1912: An act establishing a standard barrel for apples followed, August 31, 1916, by the Standard Container Act of 1916 (15 U.S.C. 251-56), establishing standards for climax baskets, and one establishing standards for hampers and round-stave baskets. May 21, 1928, The Standard Container Act of 1928 (15 U.S.C. 257a-257i) with regulations for enforcement within reasonable tolerances.

August 20, 1912: The Plant Quarantine Act, regulating importation and interstate shipment of plants, plant products, and other commodities to prevent introduction into and spread within the U.S. of injurious plant diseases and insect pests, and establishing the Federal Horticultural Board. (7 U.S.C. 151-167.) July 31, 1947: Plant Quarantine. Amends Plant Quarantine Act of 1912 by adding new proviso to Sec. 1 which authorizes Secretary to limit the entry of nursery stock from foreign countries and, when necessary, require that it be grown under post-entry quarantine to determine whether it is infested or infected with plant pests not discernable at port of entry inspection, and if found to be infested or infected to prescribe remedial measures deemed necessary to prevent spread of plant pests. (Public Law 290, 80th Cong.)

August 24, 1912: The Importation of Adulterated Seeds Act, as amended, prohibiting importation into the U. S. of seeds which are adulterated or unfit for seeding purposes, and providing for criminal prosecution of persons who knowingly violate the act. (7 U.S.C. 111-16.)

March 4, 1913: An act to prevent preparation and sale in any place under the jurisdiction of the U.S. of worthless or harmful viruses, serums, toxins, and analogous products for domestic animals, or importation or interstate shipment of same. Secretary is authorized to regulate preparation of such products for sale in the D. of C., Territories, or other places under the jurisdiction of the Federal Government, and for interstate shipment. (21 U.S.C. 151-58.)

May 8, 1914: The Agricultural Extension or Smith-Lever Act providing for cooperative work with land-grant colleges in giving instruction and practical demonstrations in agriculture and home economics to persons not in attendance; also for imparting such information through field demonstrations, publications, and otherwise, whereupon farm management and farmers' cooperative demonstration work carried on by the Bureau of Plant Industry was discontinued. The Federal Government appropriated funds to carry out the purposes of the act which had to be matched by equal sums appropriated by legislature of States in question, or provided by the State, county, college, local authority, or individual contributions from within each State for maintenance of work; Federal funds granted to the States in the proportion which the rural population of each State bore to the total population of all the States. May 22, 1928: The Capper-Ketcham Act, providing funds for agricultural extension work, required that at least 80 percent of all appropriations under this act totaling $17,280,000 be utilized for payment of salaries of extension agents in counties and, for the first time, recognized junior work with boys and girls. June 29, 1935: Section 21 of the Bankhead-Jones Act of 1935, providing an ultimate final appropriation of $12,000,000 annually to be allotted to the several States under same terms and conditions as Smith-Lever Act of May 8, 1914, except that $980,000 shall be paid to the several States and Hawaii in equal shares, and the remainder to the States in proportion that the farm population of each bears to the total population of the several States -- no offset of State money required. June 20, 1936: Extension of Capper-Ketcham Act to Territory of Hawaii. (7 U.S.C. 341-8, 386c.) June 6, 1945: An act amending Bankhead-Jones Act of June 29, 1935, by providing for further development of agricultural extension work as contemplated by the Smith-Lever Act of May 8, 1914, through provision of additional sums, $4,500,000 for the fiscal year 1946, $8,500,000 for 1947, and $12,500,000 for 1948, and the years thereafter, and providing that $500,000 of the sum appropriated for each fiscal year is to be available for special allotment. (Public Law 76, 79th Cong.)

June 30, 1914: A law establishing the Bureau of Crop Estimates, later, by law of March 3, 1921, the Bureau of Markets and Crop Estimates, later still combined with the Office of Farm Management and Farm Economics to become the Bureau of Agricultural Economics, established by law of May 11, 1922. (7 U.S.C. 411.)

June 11, 1916: An act authorizing the Secretary of Agriculture to enter into cooperative agreements with the several States, Territories, or counties for the survey, construction, and maintenance of roads and trails within or partly within National Forests and appropriating $1,000,000 for each fiscal year to and including June 30, 1926, in all $10,000,000 to be available until expended for this purpose. (39 Stat. 358.)

June 17, 1916: The Federal Farm Loan Act set up Federal land banks to provide farmers with a source of Federally supervised cooperative credit by making long-term loans to farmers who use their farms as security, and creating the Federal Farm Loan Board, and the Federal Farm Loan Bureau. (12 U.S.C. 641.) March 4, 1923: The Agricultural Credits Act of 1923 authorizing the chartering of 12 Federal intermediate credit banks which make loans to and discounts for production credit associations, banks for cooperatives, State and national banks, agricultural credit corporations, livestock-loan companies and similar financing institutions. (12 U.S.C. 1151-1322.) July 2, 1926: An act authorizing the Secretary of Agriculture to establish a division of cooperative marketing to disseminate to cooperative associations, economic, statistical, and historical information regarding cooperative associations in the United States and foreign countries. (7 U.S.C. 452-453.) March 27, 1933: Executive Order 6084 consolidated into one independent agency, the Farm Credit Administration, all Federal agencies and activities providing or supervising farm credit in the U.S. at that time. May 12, 1933: Emergency Farm Mortgage Act of 1933: An act authorizing the Land Bank Commissioner to make first and second mortgage loans to assist in the emergency refinancing of farm mortgage debts. (12 U.S.C. 1016.) July 12, 1946: This act extended the Emergency Farm Mortgage Act, as amended, to July 1, 1947. June 16, 1933: The Farm Credit Act authorizing creation of 12 production credit corporations and the establishment of production credit associations and of 13 banks for cooperatives. (12 U.S.C. 1131-48.) January 31, 1934: An act creating the Federal Farm Mortgage Corporation to supply funds for Land Bank Commissioner loans and to make loans to, and buy the bonds of, the 12 Federal land banks. (12 U.S.C. 1020.) July 12, 1946: Provided for repayment to the Secretary of the Treasury of excess subscriptions to the capital stock of the Federal Farm Mortgage Corporation, such excess to be held until additional subscriptions to its capital are necessary. Further, the act provided that the Farm Credit Administration be authorized to make a study of ways and means of availability to farmers through the Federal Land Bank System of loans similar to those made by the Land Bank Commissioner through the Federal Farm Mortgage Corporation (Public Law 505 - 79th Cong.) (60 Stat. 532.)

August 11, 1916: The United States Warehouse Act, as amended, providing for the licensing by the Secretary of Agriculture of warehouses in which agricultural commodities are stored for shipment in interstate commerce. (7 U.S.C. 241-73.)

August 11, 1916: The U. S. Grain Standards Act, as amended, authorizing the Secretary of Agriculture to investigate the handling, grading, and transportation of grain, and to promulgate standards of quality and condition for corn, wheat, rye, oats, barley, flaxseed, soybeans and such other grains as in his judgment needed such action. (7 U.S.C. 71-87.)

August 11, 1916: The U. S. Cotton Futures Act laying a tax on each pound of cotton involved in any contract of sale of cotton for future delivery upon exchange, unless specified types of contracts are used. (26 U.S.C. 1090-1106.)

July 3, 1918: The Migratory Bird Treaty Act, prohibiting the hunting of migratory birds and their shipment except under regulations issued by the Secretary of Agriculture, and involving the provisions of a convention between the U. S. and Great Britain for the protection of migratory birds concluded August 16, 1916. This was followed by the Migratory Bird Conservation Act of February 18, 1929, (16 U.S.C. 715) as amended, establishing the Migratory Bird Conservation Commission, with the Secretary of Interior as Chairman, and Secretary of Agriculture, as a member, which may acquire lands recommended by him as necessary for the conservation of migratory birds. (16 U.S.C. 703-11.)

August 15, 1921: The Packers and Stockyards Act, regulating the business practices of packers in interstate commerce and of stockyard owners or operators, and the commission merchants and others operating at yards posted by the Secretary of Agriculture pursuant to the act, and prohibiting unreasonable, unfair, unjustly discriminatory, and deceptive practices and devices. (7 U.S.C. 182-229.)

November 9, 1921: The Federal Highway Act, as amended, authorizing the Secretary of Agriculture to direct payments to the States by the Secretary of the Treasury on a specified basis for the construction of public highways. September 5, 1940: Authorized highway appropriation to be administered by Secretary of Agriculture and Federal Works Administrator; also provided for the survey, construction, reconstruction, and maintenance of development roads and trails within or adjacent to the National Forests and of forest roads of primary importance to the State or community. (23 U.S.C. 1-25.)

March 20, 1922: Authorizes exchange of National Forest land or timber for private land within exterior boundaries of National Forests. (42 Stat. 465.)

August 31, 1922: The Honey Bee Act providing for the governing of importation of adult honey bees into the U.S. (7 U.S.C. 281-282.)

September 21, 1922: The Grain Futures Act, to control transactions in grain involving the sale thereof for future delivery; later amended by the Commodity Exchange Act of June 15, 1936 (49 Stat. 1491), which regulated the exchanges, commission merchants, and brokers, who deal in future contracts covering a considerable number of agricultural commodities, and provided for the elimination of questionable market practices such as: Excessive speculation, use of contracts designed to mislead or defraud customers, wash sales, cross trades, fictitious sales, dealings by unregistered futures commission merchants or unregistered brokers, and so on. (7 U.S.C. 1-17.)

March 3, 1923: The Naval Stores Act, providing for the establishment by the Secretary of Agriculture of official standards for rosin and turpentine, requiring that all rosin and turpentine shipped in interstate commerce be sold under or by reference to such standards, and prohibiting deceitful practices in the sale of naval stores. June 16, 1938: (52 Stat. 746) Secretary of Agriculture authorized to utilize regional associations, under the Soil Conservation and Domestic Allotment Act, and other Government agencies in administering Naval Stores Conservation programs. (7 U.S.C. 91-99.)

March 4, 1923: The Filled Milk Act, declaring filled milk an adulterated article of food injurious to the public health and its sale a fraud on the public. (21 U.S.C. 61-63.)

March 4, 1923: The Agricultural Credits Act of 1923 authorizing the chartering of 12 Federal intermediate credit banks which make loans to and discounts for production credit associations, banks for cooperatives, State and national banks, agricultural credit corporations, livestock-loan companies and similar financing institutions. (12 U.S.C. 1151-1322.) July 21, 1932: An act creating the regional agricultural credit corporations under the Reconstruction Finance Corporation, and which, on March 27, 1933, came under the Farm Credit Administration, authorized and empowered to make loans or advances to farmers and stockmen for various specified agricultural purposes. (12 U.S.C. 1148.)

March 4, 1923: The U. S. Cotton Standards Act, provided for the establishment of quality standards for cotton, forbade the use of other than official standards in transactions in interstate commerce, required publication of prices or quotations determined in or in connection with such transactions, and authorized an inspection service. (7 U.S.C. 51-65.)

May 29, 1924: An act establishing the Bureau of Dairying, later Bureau of Dairy Industry, for the investigation of the dairy industry and the dissemination of information promoting it. (7 U.S.C. 401.)

June 7, 1924: An act providing for an expanded program of cooperation with the States in forest fire protection; for forest taxation and insurance studies; for cooperation with the States in furnishing forest tree seeds and plants for reforesting farm lands and in assisting their owners in establishing and improving forest growth thereon; and for the extension of the National Forests through the acquisition of lands by purchase or donation. (16 U.S.C. 564-568a, 515, 569, 570, 471, 499, and 505.)

February 12, 1927: The Import Milk Act designed to prevent the importation into the U. S. of milk and cream which do not comply with health requirements specifically designated therein. (21 U.S.C.141 -49.)

March 3, 1927: The Produce Agency Act, making it a criminal offense for any person receiving fruits, vegetables, melons, dairy or poultry products, or perishable farm products in interstate commerce, for or in behalf of another, to fail truly and correctly to account for the same, or to make fales reports or statements relating to the handling or disposition of same. (7 U.S.C. 491-97.)

March 3, 1927: Cotton Statistics Act, as amended, authorizing the collection and publication of statistics of the grade and staple length of cotton and also provided classification and news service for producer groups authorized for cotton improvement. (7 U.S.C. 471-476.) August 8, 1946: Amendment to section 5 of the act entitled "An Act authorizing the Secretary of Agriculture to collect and publish statistics of the grade and staple length of cotton." (Public Law 689 - 79th Cong.) (7 U.S.C. 475).

March 4, 1927: The Federal Caustic Poisons Act, regulating interstate and foreign commerce in dangerous caustic or corrosive substances sold or exchanged in commerce, and preventing misbranding. (15 U.S.C. 401-11.)

May 22, 1928: An organic act authorizing all phases of forest and related research and the establishment of regional forest experiment stations. (16 U.S.C. 581-581i.)

January 14, 1929: Tobacco Statistics Act, as amended, providing for the collection and publication of statistics of tobacco and authorizing the Secretary of Agriculture to establish standards for the classification of tobacco. (7 U.S.C. 501-508.)

June 15, 1929: An act establishing the Federal Farm Board to promote the effective merchandising of agricultural commodities in interstate and foreign commerce and to place agriculture on a basis of economic equality with other industries. (12 U.S.C. 1141.)

June 18, 1929: An act providing for a census of agriculture and livestock to show the acreage of farm land, the acreage of principal crops, and the number and value of domestic animals on farms and ranges of the country. (13 U.S.C. 201 et seq.)

June 5, 1930: An act establishing a Foreign Agricultural Service to acquire information regarding the quality, competition, and demand for agricultural products, and the production, marketing, and distribution of such products in foreign countries. (7 U.S.C. 542.)

June 9, 1930: An act providing for expanded tree-planting operations on the National Forests. (16 U.S.C. 576-576b.)

June 10, 1930: The Perishable Agricultural Commodities Act, as amended, requiring the licensing of commission merchants, dealers, and brokers handling fresh fruits and vegetables in interstate commerce, and declaring specified types of unfair conduct unlawful. (7 U.S.C. 499a-499i.)

June 17, 1930: (46 Stat. 672): Tariff Act of 1930, Sec. 201, Par. 1606, which permitted the importation, duty free, by citizens of the U.S., for breeding purposes of animals, except black or silver foxes, if pure breed and registered in a book of record recognized by the Secretary of Agriculture for that breed; and Sec. 306 which prohibited the importation of animals or fresh, chilled, or frozen meats from foot-and-mouth and rinderpest infected countries, and of meats which were unfit for human food or which did not comply with regulations of the Secretary of Agriculture. (19 U.S.C. 1201.)

March 2, 1931: An act to eradicate and control predatory animals injurious to agriculture, horticulture, forestry, animal husbandry, wild game animals, fur-bearing animals, and birds, also for protecting domestic animals through suppression of rabies and tularemia in predatory and other wild animals. (7 U.S.C. 426.)

May 12, 1933: The Agricultural Adjustment Act, later amended, was enacted to establish and maintain such balance between the production and consumption of agricultural commodities, and such marketing conditions therefor, as would reestablish prices to farmers at a level that would give farm commodities parity, or a purchasing power with respect to articles that farmers buy, equivalent to the purchasing power of the farm commodity in a base period of August 1909-July 1914, except for potatoes and tobacco for which the base period was August 1919-July 1929. (7 U.S.C. 601-71.) February 16, 1938: The Agricultural Adjustment Act of 1938, as amended, providing for the orderly marketing of agricultural commodities through the establishment of acreage allotments and marketing quotas on cotton, wheat, corn, tobacco, rice, and peanuts and the making of loans by Commodity Credit Corporation on agricultural commodities. The act also provided for the establishment of four regional research laboratories for the purpose of finding new uses and markets for agricultural products and byproducts. (7 U.S.C. 1281-1407.) February 6, 1942: An act amending the Agricultural Adjustment Act of 1938, providing for the adjustment of marketing equities and acreage allotments where farm land was acquired for defense purposes. (56 Stat. 51.) July 7, 1943: A joint resolution amending the Agricultural Adjustment Act of 1938, as amended with relation to the marketing of burley and flue-cured tobacco. (57 Stat. 387.) March 31, 1944: A joint resolution amending the Agricultural Adjustment Act of 1938, as amended, for the purpose of further regulating interstate and foreign commerce in tobacco. (58 Stat. 136.) February 28, 1945: An act modifying the rules for establishing acreage allotments under the Agricultural Adjustment Act of 1938, as amended, and sections 7 and 17 of the Soil Conservation and Domestic Allotment Act, as amended, so as to permit the Secretary of Agriculture to credit cotton, wheat, or peanut acreages for war years where the farm's production historywas not normally representative due to production of war crops or absence in the military service (Public Law 12, 79th Cong.) June 29, 1945: An act repealing section 3 of the Agricultural Adjustment Act of 1938, as amended, relating to hops. (Public Law 91, 79th Cong.) July 28, 1945: A joint resolution further regulating national marketing quotas for fire-cured and dark air-cured tobacco for the marketing years 1946-47, 1947-1948, and 1948-1949, and authorizing the Commodity Credit Corporation, beginning with the 1945 crop, to make available loans or other price support at specified percents in the case of fire-cured and dark air-cured tobacco. (Public Law 163, 79th Cong.) February 19, 1946: An act amending the Agricultural Adjustment Act of 1938, as amended, with relation to the marketing of burley tobacco. (Public Law 302, 79th Cong.) July 24, 1946: Relating to cotton marketing quotas under the Agricultural Adjustment Act of 1938, as amended. Joint resolution providing that in view of the critical shortage of fats and oils and protein feeds, cotton marketing quotas shouldnot be proclaimed with respect to the marketing year beginning August 1, 1947, and no National, State, county, or farm acreage allotments for cotton for the 1947 crop shouldbe established. (Public Law 544-79th Cong.) (60 Stat. 662.)July 24, 1946: Joint resolution providing that in view of the critical shortage of high protein foods and feeds, and fats and oils, peanut marketing quotas shouldnot be proclaimed with respect to crop of peanuts produced in 1947, and no National, State, or farm acreage allotments for peanuts for 1947 crop shouldbe established. (Public Law 545-79th Cong.) (60 Stat. 663.)

August 1, 1947: Peanut Marketing Quotas amended the Agricultural Adjustment Act of 1938; simplified and strengthened the administration of the peanut-marketing quota provisions of the Act; eliminated the necessity of determining normal yields of individual farms except in cases of violations of the quota regulations; increased the penalty for marketing excess peanuts from 3 cents to a rate equivalent to 50 percent of the basic price support rate (the same penalty rate as now provided for wheat, cotton, and corn); provided for reductions in allotments in the year following the infractions; and eliminated the provision of existing law whereby the farmer could avoid payment of the penalty by delivering excess peanuts to an agency designated by the Secretary. (P. L. 323-80th Cong.)

June 10, 1933: (48 Stat. 123.) Export Apple and Pear Act protecting the reputation of American grown apples and pears in foreign markets and preventing deception or misrepresentation as to the quality of such produce. This act also required inspection and certification by the U. S. Department of Agriculture. (7 U.S.C. 581-589.)

March 23, 1935: Transfer of Soil Erosion Service in Department of Interior to the Department of Agriculture. (Pursuant to Powers in Executive Orders 6252, August 19, 1933, and 6929, December 26, 1934.) April 27, 1935: Soil Erosion Act, establishing the Soil Conservation Service to prevent soil erosion, thus preserving natural resources, controlling floods, maintaining the navigability of rivers and harbors, and carrying out other public purposes. The Service was authorized to conduct investigations and research, carry out preventive measures on Federal lands or by cooperative agreement with agencies and persons controlling other lands, and contribute services, equipment, money or materials in connection with such operations. February 29, 1936: Soil Conservation and Domestic Allotment Act continued and extended Soil Erosion Act of 1935, sections 7 to 17 of which authorized an agricultural conservation program in which the emphasis shifted from temporary adjustment to soil conservation and improved farm-management practices; it included provisions for apportionment of acreage allotments and payments to landlords, tenants, and share-croppers for carrying out soil-building and soil-conserving practices. (7 U.S.C. 608-11, 612b, 612c, 624, 1301, 1372, 1385, 1391; 16 U.S.C. 590a-590q.) July 25, 1946: Extended period within which Secretary of Agriculture may carry out the purposes of the Soil Conservation and Domestic Allotment Act by making payments to agricultural producers. (Public Law 546-79th Cong.) (16 U.S.C. 590h.) July 26, 1947: Virgin Islands' Soil Conservation and Farm Loans: Extended Soil Conservation and Domestic Allotment Act and Titles I and II of Bankhead-Jones Farm Tenant Act to Virgin Islands. (P. L. 249, 80th Cong.)

April 30, 1935: Establishment of the Resettlement Administration by Executive Order 7027, pursuant to act of April 8, 1935, for administering projects involving resettlement of destitute or low-income families from rural and urban areas, including establishment, maintenance, and operation of communities in rural and suburban areas; to initiate and administer a program on soil erosion, stream pollution, seacoast erosion, reforestation, and flood control; and to make loans to finance the purchase of farm lands and necessary equipment by farmers, farm tenants, croppers or farm laborers. December 31, 1936: Transfer of Resettlement Administration to USDA by Executive Order 7530. August 14, 1946: Farmers Home Administration Act of 1946 provided authority and directions with respect to the liquidation of resettlement projects and rural rehabilitation projects for resettlement purposes. (Public Law 731, 79th Cong.) (60 Stat. 1062.)

June 29, 1935: Bankhead-Jones Act: Authorized Secretary of Agriculture to conduct research into basic laws and principles of agriculture, providing for similar work by experiment stations, establishing a special USDA research fund. It provided a total appropriation of $980,000 to be paid annually in equal shares to the States and ultimately $1,500,000 additional, allotted annually to each of the several States, "in the proportion which the total population of each State...bears to the total population of all the States." (7 U.S.C. 427.) August 14, 1946: This act amended Title I of the Bankhead Jones Act and provides for further research into basic laws and principles relating to agriculture and to improve and facilitate the marketing and distribution of agricultural products. (Public Law 733 - 79th Cong.) (60 Stat. 1082).

August 23, 1935: The Tobacco Inspection Act, regulating transactions involving tobacco and establishing standards and grades by uniform classification and inspection procedures in order to control unwarranted price fluctuations. (7 U.S.C. 511a-q.)

August 24, 1935: "Section 32" appropriating for each fiscal year beginning with the fiscal year 1936, 30 percent of the gross receipts from duties collected under the customs laws during the calendar year preceding each fiscal year to encourage the exportation and domestic consumption of agricultural commodities and products. (7 U.S.C. 612c.)

August 29, 1935: An act authorizing the Secretary of Agriculture to enter into cooperative agreements with State officials to acquire State forest lands. (16 U.S.C. 567a.)

May 20, 1936: The Rural Electrification Act of 1936, establishing the Rural Electrification Administration and providing for loans to promote rural electrification and use of electric power. (7 U.S.C. 903.) September 21, 1944: The Department of Agriculture Organic Act of 1944 provided new authority for Reconstruction Finance Corporation to make loans to Rural Electrification Administration, beginning with the fiscal year 1945, at 1 and 3/4 percent per annum, and provided that ~~prior~~ loans shall be adjusted at the same rate. It also provided that loans to borrowers be made at 2 percent per annum and for adjustment of interest rates on outstanding loans at the same rates. Extended from 25 to 35 years the period of loans under the act. (Public Law 425, 78th Cong.) December 23, 1944: An act authorizing the Rural Electrification Administration to make loans to cooperative associations to repay or refinance loans from the Tennessee Valley Authority. (Public Law 563, 78th Cong.)

June 22, 1936: The Flood Control Act, as amended, placing Federal investigation and improvements of rivers and other waterways for flood control and allied purposes under the jurisdiction of the War Department and Federal investigations of watersheds and measures for retarding runoff and waterflow and the prevention of soil erosion under the direction of the Secretary of Agriculture. (33 U.S.C. 701) December 22, 1944: An act authorizing various Agriculture Department postwar projects in connection with Flood Control. (Public Law 534, 78th Cong.)

June 24, 1936: The Peanut Statistics Act, as amended, providing for the collection and publication of statistics of peanuts. (7 U.S.C. 951-957.)

May 18, 1937: The Cooperative Farm Forestry Act, providing for the cooperation of the Secretary of Agriculture, with the land-grant colleges and universities and State forestry agencies, in the development of farm forestry in States and Territories. (16 U.S.C. 568b.)

June 3, 1937: The Agricultural Marketing Agreement Act establishing and maintaining orderly marketing conditions for agricultural commodities in interstate commerce and establishing prices to farmers at a level that would provide parity, as well as protect the interests of consumers. This act authorized the establishment of quotas or allotments for the sale of certain commodities and penalties for those exceeding quotas set by the Secretary of Agriculture, and it reenacted certain provisions of the Agricultural Adjustment Act of 1933. (7 U.S.C. 601-671.) August 1, 1947: Marketing Agreements and Orders. Amended the Agricultural Adjustment Act of 1933, as reenacted and amended by the Agricultural Marketing Agreement Act of 1937, so as to make it possible, under a marketing agreement or order, to establish and maintain minimum standards of quality, maturity, grading, and inspection requirements for fruits and vegetables, even though prices of the applicable commodities are above parity; permited the levy and collection of assessments during periods when regulatory provisions of marketing agreement or orders are inoperative, and authorized the expenditures of funds for any purpose which the Secretary might determine to be appropriate; also authorized the requirement of compulsory inspection under a marketing agreement or order. (Public Law 305, 80th Cong.)

July 22, 1937: The Bankhead-Jones Farm Tenant Act authorizing the making of loans to farm tenants to enable them to become owners, also to laborers, sharecroppers, etc., upon acceptance of a scientific farm-management plan such as to enable a diligent farm family to carry on farming successfully in the locality. Provision was also made for rehabilitation loans to eligible individuals to enable them to purchase such livestock, supplies and equipment as would help them rehabilitate themselves as self-subsistent farmers, loans to be secured by lien on crops, chattel mortgages, or assignments from sale of farm products. (7 U.S.C. 1000-29.) July 26, 1947: 'Virgin Islands' Soil Conservation and Farm Loans. Extended the Soil Conservation and Domestic Allotment Act and titles I and II of the Bankhead-Jones Farm Tenant Act to the Virgin Islands. (Public Law 249-80th Cong.)

August 28, 1937: An act to assist in providing facilities for water storage and utilization in the arid and semiarid areas of the United States. The Secretary was directed to formulate and keep current a program of projects, to construct and to sell or lease various facilities, to cooperate with other agencies as deemed necessary, and to obtain options upon and acquire lands, rights, or interests therein or rights to the use of water. (16 U.S.C. 590.)

September 1, 1937: The Sugar Act, providing for the establishment of sugar marketing quotas by proration of the amount of sugar needed to meet consumers' requirements among domestic sugar producing areas, Hawaii, Puerto Rico, the Virgin Islands, the Commonwealth of the Philippine Islands and foreign countries and providing for payments to domestic producers of sugar beets and sugar cane upon compliance with specified conditions. (7 U.S.C. 1100-1183). June 20, 1944: An act extending for two additional years the provisions of the Sugar Act of 1937 and the taxes with respect to sugar. (58 Stat. 283). July 27, 1946: An act providing for extension until December 31, 1947, the provisions of the Sugar Act of 1937, as amended. (Public Law 558-79th Cong.) (7 U.S.C. 1183). August 8, 1947: Sugar Act of 1948. Reenacted the Sugar Act of 1937 with changes; extends the termination date from December 31, 1947 to December 31, 1952; and extends the sugar tax to July 1, 1953. Requires the Secretary to estimate each year the sugar requirements of consumers in the continental U.S., taking into account various factors so as to provide a supply of sugar that will be consumed at prices which will not be excessive to consumers and which will fairly and equitably maintain and protect the domestic sugar industry. Establishes fixed quotas for domestic areas totaling 4,268,000 short tons (domestic beet 1,800,000; mainland cane, 500,000; Hawaii, 1,052,000; Peurto Rico, 910,000; Virgin Islands, 6,000), a fixed quota of 952,000 short tons for the Republic of the Philippines, and allots to Cuba and full duty countries the balance of the estimate of consumption requirements, with 98.64 percent allotted to Cuba and 1.36 percent to full duty countries. Provides that any Philippine deficit is to be realloted to Cuba (95 percent) and full duty countries (5 percent) and that any deficit of any domestic area or Cuba is to be prorated to the other domestic areas and Cuba which are able to supply such deficits. Guarantees for Cuba a minimum quota of 28.6 percent, which is equivalent to her share of the quota under the Sugar Act of 1937 at consumption levels at or above 6,682,670 short tons. Provides that, if the Cuban quota after reallotment of deficits would otherwise fall below 28.6 percent, the proration of the Philippine deficit to full duty countries would be 1.36 percent instead of 5 percent and that any further addition needed to maintain the 28.6 percent quota would be deducted prorata from domestic quotas. Continues provision for suspension of quotas by Presidential proclamation in event of emergency but provides that the direct consumption portion of the quotas shall not be subject to suspension unless the President specically finds that an emergency exists which requires their suspension. Authorizes the Secretary to withhold or withdraw any quota increase for any foreign country over that provided for such country under the Sugar Act of 1937 if such country denies fair and equitable treatment to U. S. nationals. Continues the conditional payment provisions of the Sugar Act of 1937 with respect to marketing limitations for producers, employment of child labor, the payment of fair and reasonable wages to sugar beet and sugarcane workers, and the payment of fair prices for sugar beets and sugarcane purchased by processors who are also producers. Eliminates the farming practice condition for payment. (Public Law 388, 80th Cong.)

February 16, 1938: The Federal Crop Insurance Act authorized insurance against loss of wheat crops. (7 U.S.C. 1501-1504, 1505-1518). July 21, 1941: An act amending the Federal Crop Insurance Act by authorizing insurance against loss on cotton also and increasing the annual appropriation to $12,000,000. July 12, 1943: The Agricultural Appropriation Act of 1944 prohibited the use of this appropriation for insurance of wheat or cotton crops planted subsequent to July 31, 1943. (57 Stat. 392). December 23, 1944: An act amending the Federal Crop Insurance Act and authorizing insurance on wheat, cotton and flax, commencing in 1945 and trial insurance on certain other crops. (58 Stat. 918). August 1, 1947: Experimental Basis for Crop Insurance. Amended the Federal Crop Insurance Act so as to limit, beginning in 1948 insurance of not more than 200 counties in the case of wheat, 56 counties in the case of cotton, 50 counties each in the case of corn and flax, and 35 counties in the case of tobacco; provided for insurance in 1948 on two additional commodities in not to exceed 20 counties each, and on as many as three additional commodities each subsequent year in not to exceed 20 counties each; provided that the counties selected were to be representative of the several areas where the agricultural commodity insured was normally produced, except those areas in which the income from such commodity constituted an unimportant part of the total agricultural income of the area; provided for trying any plan or plans of insurance adapted to the insured commodity; and for the purpose of encouraging private insurance companies to re-enter the field of "all-risk" insurance, provided for the reinsurance of private insurance companies in not to exceed 20 counties. Other provisions dealt principally with management and administration. (Public Law 320 - 80th Cong.)

April 25, 1939: Reorganization Plan No. 1 placed the Bureau of Public Roads in the Federal Works Agency and the Farm Credit Administration, the Federal Farm Mortgage Corporation, and the Commodity Credit Corporation in the Department of Agriculture.

May 9, 1939: Reorganization Plan No. II placed the Bureau of Biological Survey in the Department of Interior and the Rural Electrification Administration in the Department of Agriculture. A portion of foreign agricultural service in the Department of Agriculture was transferred to the State Department.

August 9, 1939: The Federal Seed Act to regulate foreign and interstate commerce in specified agricultural seeds and to prevent unfair practices. (7 U.S.C. 1551-1610).

August 11, 1939: The Wheeler-Case Act authorizing water conservation in Great Plains and in arid and semiarid areas under the Department of Interior, with the Department of Agriculture participating in certain respects. (16 U.S.C. 590y).

April 2, 1940: Reorganization Plan No. III combined the Division of Marketing and Marketing Agreements of the Agricultural Adjustment Administration and the Federal Surplus Commodities Corporation into the Surplus Marketing Administration in the Department of Agriculture.

April 4, 1940: The Schwellenbach Act providing for the delegation of regulatory functions by the Secretary of Agriculture (i.e., the issuance of orders, etc., after notice and hearing, which have force of law). (5 U.S.C. 516-a).

April 11, 1940: Reorganization Plan IV transferred the Weather Bureau to the Department of Commerce, but authorized the Department of Agriculture to continue to make snow surveys and conduct research on (2) relationships between weather and crops, (b) long-range weather forecasting, and (c) relationships between weather and soil erosion. This plan transferred the Food and Drug Administration to the Federal Security Agency, except the functions relating to the Insecticide Act and the Naval Stores Act, which were administered by the Agricultural Marketing Service. Certain functions of the Soil Conservation Service relating to soil and moisture operations conducted on Department of Interior lands were transferred to the Department of Interior.

October 8, 1940: An act which authorized operators of country public grain warehouses, if they lack sufficient space to accommodate all depositors, to move storage grain, under regulations prescribed by the Secretary of Agriculture without the prior cancellation of such country receipts, to other warehouses. (7 U.S.C. 608f).

October 10, 1940: An act authorizing the President, in the interest of national defense, to requisition certain articles and materials, which have been ordered, manufactured, etc., for export purposes, the exportation having been denied under section 6 of the act of July 2, 1940. (54 Stat. 1090). June 30, 1945: An act continuing the act of October 10, 1940, as amended, until June 30, 1946. (Public Law 101, 79th Congress).

March 11, 1941: The Lease-Lend Act providing for the lease, loan, etc., of war materials, including agricultural commodities or articles in the interest of the defense of the United States. (22 U.S.C. 411-19). April 16, 1945: An act extending the Lease-Lend Act to June 30, 1949. (Public Law 31, 79th Cong.)

July 1, 1941: An act authorizing the Secretary of Agriculture to support a price for the producers of any nonbasic agricultural commodity at 85 percent of the parity or comparable price therefor through commodity loan, purchase, or other operations, when he finds it necessary to encourage the production of such commodity. By the act of October 2, 1942, the rate was increased from 85 to 90 percent. By the act of June 30, 1944, the rate on cotton was increased to 92½ percent, and by the act of October 3, 1944, the rate on cotton was again increased to 95 percent. (15 U.S.C. 713, 713a-1, 713a-4, 713a-8.)

October 16, 1941: An act authorizing the President during the national emergency to requisition the property required for the defense of the United States. (55 Stat. 742.) June 30, 1945: An act continuing the act of October 16, 1941, as amended, until December 31, 1946. (Public Law 102, 79th Cong.)

December 18, 1941: The First War Powers Act, 1941, authorizing the coordination of executive bureaus, offices, etc., by the President for national defense and the successful prosecution of the war. It also exempted war contracts from certain restrictions upon authorization of the President. (50 App., U.S.C. 601-622.)

December 23, 1941: An act which abolished the Virgin Islands Homestead Authority and transferred the administration of the Homesteads Projects in the Virgin Islands from the Virgin Islands Government to the Department of Agriculture. (55 Stat. 857.)

January 30, 1942: The Emergency Price Control Act of 1942, as amended, creating an Office of Price Administration to stabilize prices of commodities (including agricultural commodities) and rents, and authorizing the Price Administrator, by regulation or order, to establish maximum prices. It provides for the prior approval of the Secretary of Agriculture before any action shall be taken with respect to any agricultural commodity except for enforcement and individual price-increasing adjustments. (50 App., U.S.C. 901-946.) July 25, 1946: This act extended to June 30, 1947, the Emergency Price Control Act of 1942, as amended, and the Stabilization Act of 1942, as amended. (Public Law 548 - 79th Cong.) (60 Stat. 664).

January 31, 1942: The Mexican Border Act providing for the regulation by this Department of entries from Mexico of railway cars and other vehicles, baggage, and other materials which might carry insect pests and plant diseases, and for inspection, cleaning, and disinfection of such vehicles and materials, and requiring fees to be charged which will cover service costs as nearly as may be. (7 U.S.C. 149.)

February 23, 1942: Executive Order 9069, consolidating certain agencies within the Department of Agriculture into the Agricultural Marketing Administration, the Agricultural Conservation and Adjustment Administration, and the Agricultural Research Administration.

March 5, 1942: An act, as amended, authorizing the Secretary of Agriculture to administer a program for the developing of guayule and other rubber-bearing plants. (7 U.S.C. 171.)

March 27, 1942: The Second War Powers Act increasing the powers of the President during war times. The following titles were applicable to this Department.

Title II authorizes the acquisition and disposition of property for war purposes by Government agencies. Title III contained the authority for priority and allocation powers in connection with national defense contracts. Title XIII contained authority for inspection and audit of war contractors. The act was to remain in force until December 31, 1944, or until such earlier time as Congress or the President may designate. (56 Stat. 176). December 20, 1944: An act continuing until December 31, 1945, the following titles of the Second War Powers Act: Titles I to VII, IX, XI and XIV. It also amended Title III so as to provide for judicial review of suspension orders by the United States district courts for the district in which the petitioner has his principal place of business. (58 Stat. 827). December 28, 1945: An act amending the Second War Powers Act and continuing until June 30, 1946, Titles I to V, inc., and Titles VII, XI, and XIV. (Public Law 270, 79th Cong.).

May 30, 1942: Executive Order 9177, defining additional functions, duties and powers of the Secretary of Agriculture, among others, relating to the procurement of war material abroad.

June 22, 1942: An act providing for the inspection of quality and condition of farm produce received in interstate commerce. (7 U.S.C. 414).

October 1, 1942: Executive Order 9249, based on Title II of the Second War Powers Act of 1942, authorizing the Secretary of Agriculture to requisition property necessary for war purposes in connection with the Emergency Rubber Project or in connection with the storing and warehousing of agricultural commodities and products.

October 2, 1942: An act authorizing the President to issue an order stabilizing prices, wages, and salaries affecting the cost of living, setting forth the formula for determining the price below which no maximum price shall be established for any agricultural commodity and authorizing and directing the Commodity Credit Corporation to make loans upon cotton, corn, wheat, rice, tobacco and peanuts at specified rates. Pursuant to this act, Executive Order 9250 was issued, authorizing the Secretary of Agriculture and the Price Administrator, jointly, to establish or maintain or adjust prices of agricultural commodities. (56 Stat. 765).

December 5, 1942: Executive Order 9280, centralizing and delegating authority to the Secretary of Agriculture with respect to the production and distribution of food to meet war and essential civilian needs.

December 11, 1942: An act providing for domestic control of production and distribution of the opium poppy and its products, and requiring Department agencies to assist and advise the Treasury Department upon request. (21 U.S.C. 188).

March 26, 1943: Executive Order 9322, consolidating certain agencies within the Department of Agriculture into an Administration of Food Production and Distribution, and providing for the further centralization and delegation of authority with respect to the production and distribution of food in the War Food Administration.

April 10, 1943: Executive Order 9328, authorizing the Administrator of Food Production and Distribution and the Price Administrator to stabilize prices of agricultural commodities.

April 19, 1943: Executive Order 9334, consolidating certain bureaus within the Department of Agriculture into a War Food Administration, and transferring certain powers, functions, and duties of Secretary of Agriculture to War Food Administration as a further step in centralizing and delegating authority with respect to distribution and production of food. June 29, 1945: Executive Order 9577, transferring the functions, duties, and powers of the War Food Administrator to the Secretary of Agriculture.

April 29, 1943: An act authorizing the War Food Administration to assist in providing an adequate supply of workers for production and harvesting of essential agricultural commodities. (57 Stat. 70.)

July 8, 1943: An act authorizing the Secretary of Agriculture to adjust titles to lands acquired by the U.S. subject to his administration, custody, or control within 10 years after acquisition of such lands. (57 Stat. 388.)

October 28, 1943: Executive Order 9392, transferring certain powers, functions, and duties of the Secretary of Agriculture to the War Food Administrator.

December 3, 1943: An act authorizing the creation of the National Agricultural Jefferson Bicentenary Committee, with the Secretary of Agriculture as Chairman. (57 Stat. 595.)

March 31, 1944: An act authorizing the Secretary of Agriculture and the Secretary of Interior to establish cooperative sustained-yield units on forest land under the jurisdiction of the Secretary establishing the unit. (P.L. 273, 78th Cong.)

June 22, 1944: The Servicemen's Readjustment Act of 1944, as amended, providing for guaranty of loans to veterans for the purchase, upon approval by the Administration of Veterans' Affairs of farms and farm equipment. This act also amended the Bankhead-Jones Farm Tenant Act by making veterans eligible for the benefits included therein. (58 Stat. 284-301.)

June 30, 1944: The Stabilization Extension Act of 1944, amending the Price Control Act by providing that the Administrator should adjust maximum prices with respect to fresh fruits and vegetables in order to make allowances for increases in cost of production and other factors. It provided for the publication in the Federal Register of written orders or regulations by agencies exercising supervisory or policy making powers and amended the sections relating to procedure, review, and enforcement. It amended the Stabilization Act by making it unlawful to establish any maximum price for any agricultural commodity below the highest applicable price standards; authorized all lawful action to assure that the farm producer of the basic agricultural commodities receive not less than parity price or the highest price received by such producers between January 1, 1942, and September 15, 1942. In the case of loans on cotton it increased the rate to 92½ percent of the parity price. (58 Stat. 642.) June 30, 1945: A joint resolution continuing until June 30, 1946, the Emergency Price Control Act and the Stabilization Act. It amended the Emergency Price Control Act by prohibiting government action, without prior written approval of the Secretary of Agriculture, with respect to any agricultural commodity or requirement applicable to any processor thereof, except for enforcement and individual price-increasing adjustments. It defined "agricultural commodity" as including livestock and required price increases to be allowed on account of increases in postal charges for collect-on-delivery sales. It amended the Stabilization Act by prohibiting maximum prices on beef, mutton, and pork products which did not allow a reasonable profit to the industry as a group on each species, and provided that while the Stabilization Act is in effect, no slaughtering limitation should be imposed on a plant if the Secretary of Agriculture has certified that the plant was sanitary and that the meat was suitable and exempted from the provisions plants operating under the Meat Inspection Act. (Public Law 108, 79th Cong.)

October 3, 1944: The Surplus Property Act of 1944, establishing a Surplus Property Board to supervise the disposal of surplus property. It provided for disposal of food by the War Food Administration, authorized export subsidies on commodities, and included provisions to facilitate the sale of surplus property in rural areas with the assistance of the Agricultural Adjustment Agency in situations where crop production was or was threatened to be impaired by shortages of trucks, machinery, or equipment. (50 App. U.S.C. 1611-1646.) September 18, 1945: An act establishing in the Office of War Mobilization and Reconversion a Surplus Property Administration. It abolished the Surplus Property Board and transferred its functions, personnel, records and property to the Surplus Property Administrator. (P.L. 181, 79th Cong.)

October 3, 1944: The War Mobilization and Reconversion Act of 1944, establishing the Office of War Mobilization and Reconversion, to be headed by a Director, making the Office of Contract Settlement, the Surplus Property Board, and the Retraining and Reemployment Administration parts of this office. Created an advisory board to advise with the Director and to include members who have had experience in business, labor, or agriculture. Created a Retraining and Reemployment Administration to supervise and direct the activities of all executive agencies, except the Veterans' Administration, relating to retraining, reemployment, vocational education, and vocational rehabilitation. Provided for advances to State unemployment funds in certain cases. Authorized the Federal Works Agency to make loans or advances to States and political subdivisions to aid in financing investigations and other actions preliminary to the construction of public works. (50 App. U.S.C. 1651-1678.)

December 20, 1944: An act authorizing and directing the Secretary of Agriculture to compromise, adjust, or cancel indebtedness arising from loans and payments made or credit extended to farmers under the provisions of several laws and programs administered by the Department. (12 U.S.C. 1150-1150c.)

February 24, 1945: An act providing that the financial transactions of all Government corporations shall be audited annually by the General Accounting Office beginning with the current fiscal year (1945). (Public Law 4, 79th Cong.)

April 12, 1945: An act continuing the Commodity Credit Corporation as an agency of the U.S. through June 30, 1947, and increasing its borrowing powers to $4,750,000,000. It suspended for the duration of the war and a specified period thereafter the restrictions on the sale of cotton contained in section 381 (o) of the Agricultural Adjustment Act of 1938, and provided that with specific exceptions, farm commodities shall not be sold by the Corporation during the period of such suspension at less than the parity or comparable price; exempted certain operations of the CCC from the restrictions upon the making of subsidy payments and purchases for resale at a loss imposed by section 2 (e) of the Emergency Price Control Act of 1942, as amended, and imposed certain limitations upon the amount of losses which might be incurred and paid in connection with such subsidy operations and the buying of commodities for resale at a loss, and provided, beginning with the fiscal year 1946, for Treasury appraisal of assets pursuant to the act of March 28, 1938, under new valuation formula. (P.L. 30, 79th Cong.) March 21, 1946: An act amending section 3 of the Act of April 12, 1945, relating to the limitations imposed upon the CCC in the making of subsidy payments and the buying of commodities for resale at a loss. (P.L. 328, 79th Cong.) June 30, 1947: Commodity Credit Corporation continued as a U.S. agency, without change, through June 30, 1948 (P.L. 130, 80th Cong.) (see bottom page 21)

June 23, 1945: An act continuing subsidy payments and purchase and sale operations affecting, among other things, meat, butter, and flour. (Public Law 88, 79th Cong.)

June 30, 1945: An act amending the Federal Farm Loan Act, the Emergency Farm Mortgage Act of 1933, the Federal Farm Mortgage Corporation Act, and the Servicemen's Readjustment Act of 1944 by enlarging the scope of such acts. This act, among other things, authorized the Federal Land Banks to make loans up to 65 percent of the normal value of farms mortgaged. (Public Law 98, 79th Cong.)

July 31, 1945: An act increasing the amounts to be expended by the Commodity Credit Corporation under section 3 of the act of April 12, 1945, with respect to livestock and livestock products, wheat and wheat products and butterfat and butter products, and reducing the amounts authorized for subsidy payments on meat, butter and flour correspondingly. (Public Law 164, 79th Cong.)

August 11, 1945: An act authorizing the War Food Administrator and the Secretary of Agriculture to adjust boundary disputes by settling claims to certain so-called Sebastian Martin grant lands in the State of New Mexico which were administered under Title III of the Bankhead-Jones Farm Tenant Act of July 22, 1937. (Public Law 179, 79th Cong.)

December 6, 1945: The Government Corporation Control Act. Title I related to wholly Government-owned corporations and required that annually a budget program should be submitted to the President containing such information as the Bureau of the Budget may prescribe and that financial transactions of these corporations should be audited by General Accounting Office each year and a report of such audit made to Congress. Title II related to mixed ownership corporations and provided for the audit by General Accounting Office of financial transactions of these corporations for any period during which Government capital had been invested and for a report of such audit to Congress. Title III contained general provisions relative to the operation and control of these corporations, and also provided that no corporation should be created, organized, or acquired thereafter except by Act of Congress, and that no wholly-owned corporation created under laws of any State, territory, or possession of the U. S. should continue after June 30, 1948, unless prior thereto the same should be reincorporated by Act of Congress. (Public Law 248, 79th Cong.)

(cont'd from bottom of page 20)

June 29, 1948: Commodity Credit Corporation Charter Act, providing for a Federal charter for the CCC with capitalization set at 100 million dollars and borrowing authorization at 4 3/4 billion dollars. Various other general and specific powers were provided. (Public Law 806 - 80th Cong.)

April 30, 1946: An act transferring to the Secretary of Agriculture all functions relating to the breeding, raising, producing and marketing of domestically raised fur-bearing animals or products thereof, which functions were previously under the Department of Interior. (Public Law 369, 79th Cong.)

June 4, 1946: National School Lunch Act. This Act provided for assistance to the States in the establishment, maintenance, operation, and expansion of school-lunch programs, and for other purposes. (Public Law 396 - 79th Cong.) (60 Stat. 230).

June 11, 1946: Administrative Procedure Act. This act provided various means for the improvement of the administration of justice by prescribing fair administrative procedure to be followed by the various government agencies . (Public Law 404 - 79th Cong.) (60 Stat. 237).

June 24, 1946: This act authorized the condemnation of materials which are intended for use in process or renovated butter and which are unfit for human consumption. The purpose of the actwas to protect interstate and foreign commerce from process or renovated butter which is unclean, unwholesome, unhealthful, or otherwise unfit for human food, and it authorized the Secretary of Agriculture, through inspectors appointed by him to inspect all milk, butter, butter oil, and other ingredients intended for use in the manufacture of process or renovated butter, all process or renovated butter, and all factories wherein process or renovated butter is manufactured. The Secretary of Agriculture has exclusive administration and enforcement of the seizure and denaturing or destruction of ingredients intended to be used in manufacture of process or renovated butter and the denaturing or destruction of process or renovated butter, but any ingredients before they come into the possession of the manufacturers of process or renovated butter and after such ingredients leave the manufacturers and come into the hands of wholesale or retail dealers shall come under the powers and duties of the Food and Drug Administration of the Federal Security Agency. The act imposes a fine of not more than $1,000 or imprisonment of not more than six months, or both, for violations. (Public Law 427 - 79th Cong.) (60 Stat. 300).

July 24, 1946: Joint resolution to provide for the establishment of an international animal quarantine station on Swan Island, and to permit the entry therein of animals from any country and the subsequent importation of such animals into other parts of the United States. (Public Law 522 - 79th Cong.) (60 Stat. 633).

July 30, 1946: An act authorizing the Secretary of Agriculture to continue administration of and ultimately liquidate Federal rural rehabilitation projects, and for other purposes. (Public Law 563 - 79th Cong.) (60 Stat. 711; 40 U.S.C. 436, 437, 438).

August 14, 1946: Farmers Home Administration Act of 1946. This act wasto simplify and improve credit services to farmers and promote farm ownership by abolishing certain agricultural lending agencies and functions, by defining the lending powers of the Secretary of Agriculture, by authorizing Government insurance loans to farmers, by creating preferences for loans and insured mortgages to enable veterans to acquire farms, by providing additional specific authority and directions with respect to the liquidation of resettlement projects and rural rehabilitation projects for resettlement purposes. The act does not apply to the Tennessee Valley Authority. (Public Law 731-79th Cong.) (60 Stat. 1062.)

August 14, 1946: An act to provide for further research into basic laws and principles relating to agriculture and to improve and facilitate the marketing and distribution of agricultural products. (Public Law 733 - 79th Cong.)
July 31, 1947: Research and Marketing Appropriations. Amended the Research and Marketing Act of 1946 so as to provide that not less than 20 percent of the funds "appropriated", rather than those "authorized to be appropriated", for general research should be used by State agricultural experiment stations for conducting marketing and research projects approved by the USDA. (Public Law 297 - 80th Cong. 1st Sess.)

February 28, 1947: An act authorizing the Secretary of Agriculture to cooperate with the Government of Mexico in the control and eradication of foot-and-mouth disease and rinderpest. (Public Law 8 - 80th Cong.)

March 31, 1947: Sugar Control Extension Act of 1947. This act extended the powers and authorities under certain statutes with respect to the distribution and pricing of sugar. (Public Law 30 - 80th Cong.)

June 25, 1947: Cited as "Forest Pest Control Act." It provided for the protection of forests against destructive insects and diseases. It authorized the Secretary of Agriculture to conduct surveys on forest lands to detect and appraise infestations of forest insect pests and tree diseases, and to take measures against such pests and diseases. The act supplemented existing legislation. (Public Law 104 - 80th Cong.)

July 31, 1947: Farm Labor Camp Disposal. Authorized USDA, in addition to the authority in the Farmers' Home Administration Act of 1946, to dispose of farm-labor supply centers, labor homes, labor camps or facilities, and any equipment pertaining thereto or used in the Farm Labor Supply Program, for such prices and under such terms and conditions as the Secretary may determine reasonable, to any public or semi-public agency or nonprofit association of farmers in the community who would agree to operate and maintain such facilities for the principal purpose of housing persons engaged in agricultural work and to relieve the Government of all responsibility in connection therewith; set the expiration date for this authority at June 30, 1949; provided that after January 30, 1948, and pending sale thereof, no facility should be continued in operation except under contractual arrangements with responsible public, or semipublic agencies or nonprofit associations of farmers; provided that facilities for which no contractual arrangement was made by January 30, 1948, should be liquidated as expeditiously as possible. (Public Law 298, 80th Cong.)

April 3, 1948: Foreign Assistance Act, providing for the furnishing of assistance to foreign countries; authorized the Secretary of Agriculture that whenever he determines that any quantity of any surplus agricultural commodity, acquired by the Commodity Credit Corporation in its price support programs, is available for use in furnishing assistance to foreign countries, he shall so advise all departments, agencies and establishments of the Government administering laws providing for the furnishing of such assistance or relief. (Public Law 472, 80th Cong.)

June 15, 1948: An act to provide for the protection of potato and tomato production from the golden nematode. (Public Law 645 - 80th Cong.)

July 3, 1948: An act, sometimes called the Agricultural Act of 1948, authorizing the Secretary of Agriculture to stabilize prices of agricultural commodities; and to amend section 22 of the Agricultural Adjustment Act, reenacted by the Agricultural Marketing Agreement Act of 1937. Title I of the Act dealt with specific price supports; Title II with parity prices and normal supplies in relation to price supports; Title III with section 32 funds. (Public Law 897 - 80th Cong.)

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